



EXAMINATION OF
EXISTING EDUCATIONAL
AND TRAINING
REQUIREMENTS FOR
ORAL AND
MAXILLOFACIAL
SURGEONS

Submitted to:

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FINAL REPORT

EXECUTIVE SUMMARY

This report describes the procedures and results of a study to examine the existing educational and training requirements of oral and maxillofacial surgeons as specified in ICON #OER-04-02. In the ICON, there were two tasks to be accomplished by the study. First, HZ Assessments was to perform an occupational analysis, or an equivalent and defensible process (Business and Professions Code Section 139) to examine the existing educational and training requirements for the Oral and Maxillofacial profession. Second, HZ Assessments was to make an assessment as to whether the additional permitted standards proposed in Senate Bill 1336 (re-enrolled as Senate Bill 438) would enable the oral and maxillofacial surgeons to practice safely and competently in the expanded situation allowed for by the bill.

There were several phases of the study:

- (a) Background research to gain a conceptual understanding of the profession,
- (b) Development of a conceptual framework (nomological network) to examine the constructs of interest and identify methods to assess the constructs,
- (c) Interviews with practitioners to identify content domains of the job, the types of job tasks performed, and the specific knowledge necessary to perform job tasks safely and competently,
- (d) Transcription of tasks and knowledge from interviews and background information,
- (e) Development and distribution of a survey questionnaire to oral and maxillofacial surgeons to obtain ratings to determine how often job tasks were performed,
- (f) Interviews with residency training program directors and staff to obtain information about accredited didactic and clinical training,
- (g) Validation of training program summary by program directors and staff,
- (h) Validation of tasks and knowledge,
- (i) Linkage of knowledge applicable to elective facial cosmetic surgical procedures, and,
- (j) Linkage of accreditation standards for advanced specialty education programs to elective facial cosmetic surgical procedures.

Steps (h), (i), and (j) were accomplished by a focus group of practicing oral and maxillofacial surgeons to ensure that persons knowledgeable in the field evaluated the results of the study and provided expertise to interpret the data.

Our findings indicate that the additional permitted standards and credentialing process proposed in Senate Bill 438 would enable the OMSs to practice safely and competently. Our conclusion is based on a thorough review of OMS education, training, experience, required credentials to be submitted; and, a review of current practice that includes the procedures cited in the bill.

HZ Assessments conducted the study in an objective and impartial manner and recognized the importance of its outcome on oral and maxillofacial surgery and related professions. All documentation necessary to verify that the process has been implemented in accordance to professional standards is included in the report.

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SECTION 1: INTRODUCTION

HZ Assessments (HZA) approached the study with the knowledge that the outcome of the study would directly impact oral maxillofacial surgeons and plastic surgeons. HZA recognized the importance of the study on the two professions but the overarching principle for the study was the matter of consumer protection. The analysis was conducted in an objective and impartial manner with the public's health, safety, and welfare as the most important concern.

In order for the study to be objective and impartial, we believed that it was necessary to meet with both professions and their lobbyists. We met with the lobbyist for the oral and maxillofacial surgeons to gain an understanding of the provisions of the bill. We traveled to offices of plastic surgeons to gain a better understanding of the services that they provided. We met promptly with lobbyists for plastic surgeons when they requested and welcomed the opportunity to meet with them. We gained an understanding of the plastic surgery services and thoroughly studied written documentation that was provided to us. The information that we gained from the lobbyist for the oral and maxillofacial surgeons, and the plastic surgeons and their lobbyists assisted us in engaging in a critical process of evaluating the requirements of Senate Bill 1336, re-enrolled as Senate Bill 438.

SECTION 2: OVERVIEW

HISTORY

Senate Bill 1336 was introduced in February 2004. The provisions of the bill would require a person who is licensed to practice dentistry who is not a physician and surgeon to apply for and receive a permit to perform elective facial cosmetic surgery prior to performing such procedures.

The bill died on file in November 2004 after being vetoed by the Governor. At that time, the Governor stated:

“..therefore, I am directing the Department of Consumer Affairs to conduct an occupational analysis of the oral and maxillofacial surgery profession. This analysis will allow the Department of Consumer Affairs to examine existing training and education requirements and make an assessment as to whether the additional permitted standards proposed in the bill would enable the oral and maxillofacial surgeon to practice safely and competently in the expanded situation allowed for by the bill.”

The bill was re-enrolled as Senate Bill 438 in February 2005. The information presented below reflects the provisions of the most recent bill, Senate Bill 438.

REQUIREMENTS FOR PERMIT

Section 1638.1(c) of Senate Bill 438 states that licensees may obtain a permit to perform elective facial cosmetic surgery by furnishing all of the following information on an application form approved by the Dental Board of California:

- (1) *Proof of successful completion of an oral and maxillofacial surgery residency program accredited by the Commission on Dental Accreditation of the American Dental Association.*
- (2) *Proof that the applicant has satisfied the criteria specified in either subparagraph (A) or (B):*

Subparagraph A (Pathway A)

- i. Is certified, or is a candidate for certification, by the American Board of Oral and Maxillofacial Surgery.*
- ii. Submits to the board a letter from the program director of the accredited residency program, or from the director of a postresidency fellowship program accredited by the Commission on*

Dental Accreditation of the American Dental Association, stating that the licensee has the education, training, and competence necessary to perform the surgical procedures that the licensee has notified the board he or she intends to perform.

- iii. *Submits documentation to the board of at least 10 operative reports from residency training or proctored procedures that are representative of procedures that the licensee intends to perform from both of the following categories:*
 - (I) *Cosmetic contouring of the osteocartilaginous facial structure, which may include, but is not limited to, rhinoplasty and otoplasty.*
 - (II) *Cosmetic soft tissue contouring or rejuvenation, which may include, but is not limited to, facelift, blepharoplasty, facial skin resurfacing, or lip augmentation.*
- iv. *Submits documentation to the board showing the surgical privileges the applicant possesses at any licensed general acute care hospital and any licensed outpatient surgical facility in this state.*

Subparagraph B (Pathway B)

- i. *Has been granted privileges by the medical staff at a licensed general acute care hospital to perform the surgical procedures set forth in paragraph (A) at that hospital.*
 - ii. *Submits to the board the documentation described in clause (iii) of subparagraph (A).*
- (3) *Proof that the applicant is on active status on the staff of a general acute care hospital and maintains the necessary privileges based on the bylaws of the hospital to maintain that status.*

SURGICAL SETTINGS

Section 1638.1(f) limits the settings where elective, facial cosmetic surgical procedures are performed:

A licensee may not perform any elective, facial cosmetic surgical procedure except at a general acute care hospital, a licensed outpatient surgical facility, or an outpatient surgical facility accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), the American Association for Ambulatory Health Care (AAAHC), the Medicare program, or an accreditation agency approved by the Medical Board of California pursuant to subdivision (g) of Section 1248.1 of the Health and Safety Code.

CREDENTIALING COMMITTEE REVIEW

Section 1638.1(e)(2) states:

The credentialing committee shall be comprised of five members, as follows:

- (A) *A physician and surgeon with a specialty in plastic and reconstructive surgery who maintains active status on the staff of a licensed general acute care hospital in this state.*
- (B) *A physician and surgeon with a specialty in otolaryngology who maintains active status on the staff of a licensed general acute care hospital in this state.*
- (C) *Three oral and maxillofacial surgeons licensed by the board who are board certified by the American Board of Oral and Maxillofacial Surgeons, and who maintain active status on the staff of a licensed general acute care hospital in this state, at least one of whom shall be licensed as a physician and surgeon in this state. Two years after the effective date of this section, any oral and maxillofacial surgeon appointed to the committee who is not licensed as a physician and surgeon shall hold a permit pursuant to this section.*

MALPRACTICE INSURANCE

Section 1638.1(h) states:

A holder of a permit issued pursuant to this section shall not perform elective facial cosmetic surgical procedures unless he or she has malpractice insurance or other financial security protection that would satisfy the requirements of Section 2216.2 and any regulations adopted thereunder.

RELATIONSHIP TO OTHER STATES' DEFINITIONS OF DENTISTRY

According to the American Association of Oral and Maxillofacial Surgeons (AAOMS), there are 16 states that have adopted the 1997 American Dental Association (ADA) definition of dentistry (Alaska, Arizona, Arkansas, Colorado, Delaware, Georgia, Illinois, Iowa, Louisiana, Maine, Mississippi, Oregon, Rhode Island, Tennessee, Virginia, and West Virginia). Fourteen of the 16 states have amended their definition of dentistry into their dental practice acts. Illinois adopted the ADA definition into regulation and Maine adopted a policy statement that the ADA definition was consistent with their dental practice act and board rules. The ADA definition states that:

“The evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body; provided by a dentist, within the scope of his/her

education, training and experience, in accordance with the ethics of the profession and applicable law.”

Some states have chosen to cite specific types of procedures within the scope of dental practice (see Table 1).

Table 1 – Facial cosmetic procedures listed within scope of practice

State	Rhinoplasty	Blepharoplasty	Rhytidectomy	Submental liposuction	Laser resurfacing	Browlift	Platysmal muscle plication	Dermabrasion	Otoplasty	Lip augmentation	Extraoral harvesting of bone
Oregon - OAR 818-012-0005	X	X	X	X	X	X	X	X	X	X	X
Tennessee - Rule 0460-2-.06	X	X	X	X	X	X	X	X	X	X X	X

SECTION 3: VALIDATION APPROACH

APPLICABLE STANDARDS

Standard 3.1 of the Standards for Educational and Psychological Testing (1999) states:

“Tests and testing programs should be developed on a sound scientific basis. Test developers and publishers should compile and document adequate evidence bearing on test development.” (p. 43)

As stated earlier, the terms “test” and “test development” are used broadly and include credentialing procedures as well as actual tests.

In this report, we will describe a validation approach that provides evidence of OMS competencies for the proposed credentialing procedure by gathering information that bears directly on the elements in the proposed legislation.

ASSUMPTIONS

A job component validation approach was used to examine the specific domains of work in oral and maxillofacial surgical practice. The approach is predicated on the assumption that any given job component or activity occurs in substantially the same form in different jobs would have the same requirements (McCormick 1976, p. 689). The approach requires justification of the use of a selection procedure based on demonstrated validity of inferences from one or more domains of work (job components). Components of the job are identified and their interrelationships are established. The idea is to demonstrate evidence for generalized validity of inferences based on sources of competencies and then use subsets of the sources for credentialing persons in the new situation.

Job component validation was selected for this study because approach is best suited for situations in which undue dependence on subjective evaluations should be avoided and it is not possible to identify predictors for statistical evaluation (McCormick, 1976).

The job components and their interrelationships are used as the basis of a nomological network in which two frameworks are developed: a theoretical framework of what elements will be measured and an empirical framework for how the elements are to be measured. The nomological network requires careful specification of the linkages among and between frameworks specified in the network (Cronbach & Meehl, 1955).

UTILIZATION OF EXPERTS

Practicing oral and maxillofacial surgeons (OMSs) were consulted during the study to provide expertise regarding their oral and maxillofacial surgery practice.

The OMSs represented a wide range of practice settings: public hospitals, private hospitals, university teaching hospitals, outpatient surgical facilities, private practice, and military hospitals. Several OMSs were directors of OMS residency training programs and clinical faculty at major universities.

THEORETICAL FRAMEWORKS

This validation approach is based upon a model in which there is a “person” side of the equation and a “job” side of the equation.

The “person” side of the equation involves competencies a prospective applicant would have acquired prior to application for the permit.

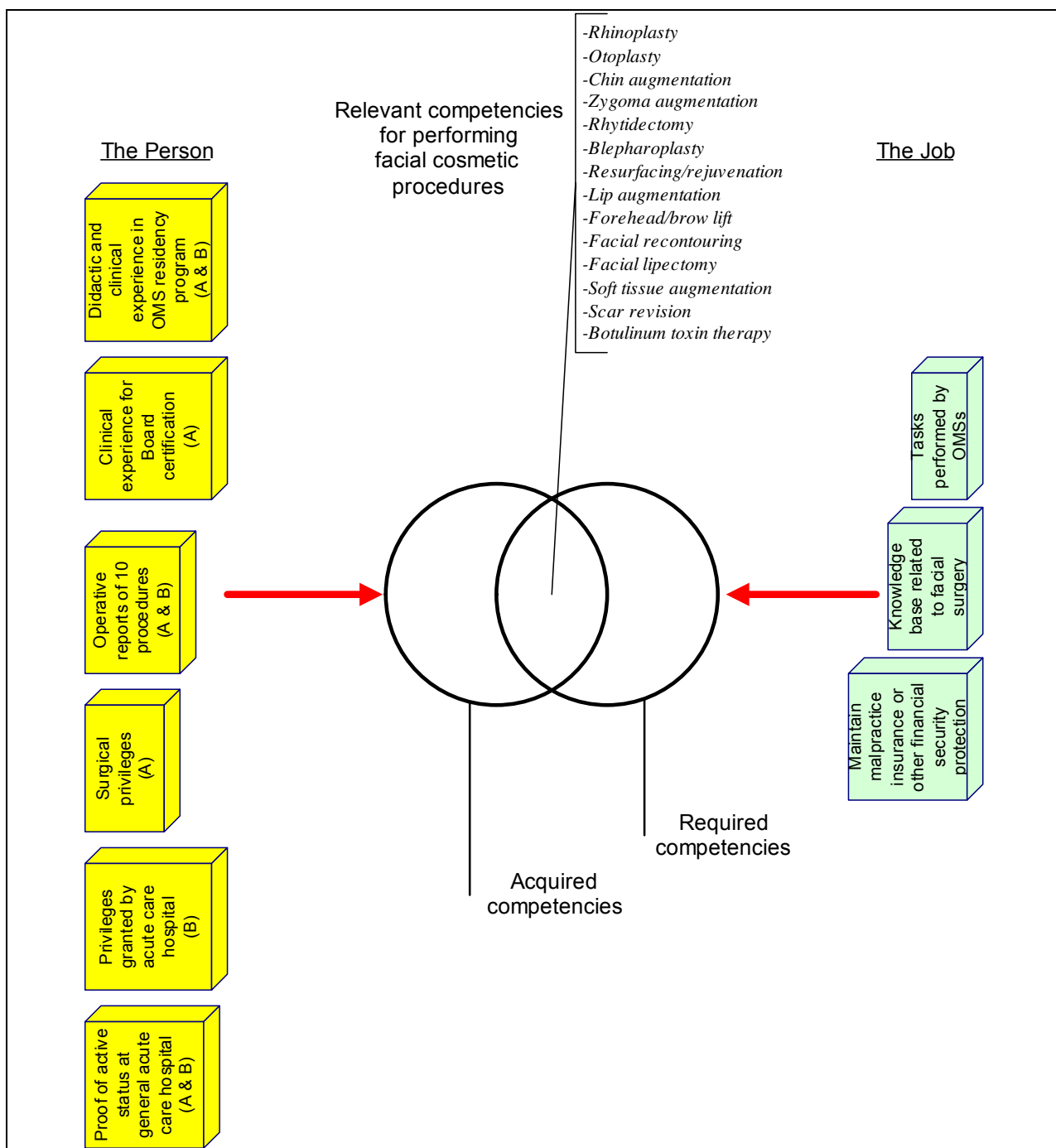
Acquired competency	Pathway A	Pathway B
Didactic and clinical experience after completion of an OMS residency program accredited by the Commission on Dental Accreditation	X	X
Clinical experience for Board certification by the American Board of Oral and Maxillofacial Surgery (Board certified, or candidate for Board certification)	X	
Operative reports of 10 procedures from two categories (cosmetic contouring of the osteocartilaginous facial structure and cosmetic soft tissue contouring or rejuvenation)	X	X
Surgical privileges at a licensed general acute care hospital and licensed outpatient surgical facility	X	
Privileges granted by the medical staff at a licensed general acute care hospital		X
Proof of active status on staff at a general acute care hospital	X	X

The “job” side of the equation includes what competencies are required to perform facial surgical procedures:

- Tasks performed by OMSs
- Knowledge base required to perform facial surgery
- Malpractice insurance

The person (acquired) and job (required) frameworks of the competencies in oral and maxillofacial surgery are illustrated in Figure 1.

Figure 1 – Theoretical frameworks for OMS study



Given this framework, we conceptualized the relevant competencies for performing facial cosmetic procedures to be the intersection of the acquired and required competencies. The implication is that the competencies of interest (elective facial cosmetic procedures) are related to multiple dimensions in an applicant’s education, training, and experience, and, in the competencies required to perform facial surgery.

EMPIRICAL FRAMEWORK (SOURCES OF EVIDENCE)

We identified several measures of the job components that were designed to provide evidence of the performance of clinical skills relevant to elective facial cosmetic surgical procedures.

Acquired competencies

Job component	Measures
Didactic and clinical experience in OMS residency	<ul style="list-style-type: none"> Review “Accreditation Standards for Advanced Specialty Education Programs in Oral and Maxillofacial Surgery” Identify program particulars in a representative sample of accredited OMS residency training programs
Required clinical experience for Board certification	<ul style="list-style-type: none"> Review surgical experience necessary to become a candidate for Board certification Review examination procedures for Board certification
Operative reports of 10 procedures	<ul style="list-style-type: none"> Identify types of procedures performed in OMS residency
Surgical privileges at licensed general acute care hospital or licensed outpatient surgical facility	<ul style="list-style-type: none"> Identify specific procedures or areas of clinical practice that define a surgical specialist within a specific department
Privileges granted by medical staff of a licensed general acute care hospital	<ul style="list-style-type: none"> Identify core and non-core privileges in representative facilities
Active status on the staff of a general acute care hospital and maintains necessary privileges to maintain that status	<ul style="list-style-type: none"> Identify categories of activities that persons who are “on staff” are allowed to perform

Required competencies

Job component	Measures
Tasks performed by OMSs	<ul style="list-style-type: none"> Practice analysis of OMS practice
Knowledge base in facial surgery	<ul style="list-style-type: none"> Practice analysis of OMS practice
Maintain malpractice insurance	<ul style="list-style-type: none"> Requirements of malpractice insurance

SECTION 4: DIDACTIC AND CLINICAL TRAINING

OVERVIEW OF ACCREDITED OMS PROGRAMS

The 1998 standards set forth by the Commission on Dental Accreditation (CODA) of the American Dental Association with regard to accredited OMS residency training programs in the United States (U.S.) and Canada. These standards are summarized below.

a) Institutional commitment/program effectiveness

- Outcomes assessment process
- Financial resources to support the programs goals and objectives
- Sponsorship by institutions which offer instruction leading to degrees, diplomas or certificates with recognized education validity. Hospitals that sponsor advanced specialty education programs must be accredited by the Joint Commission on Accreditation on Healthcare Organizations (JCAHO) or its equivalent. Educational institutions that sponsor advanced specialty education programs must be accredited by an agency recognized by the U.S. Department of Education.
- Administrative structure consistent with other parallel programs with the institution and an administrator with the authority responsibility and privileges necessary to manage the program
- Primary sponsor of the educational program must accept full responsibility for the quality of education provided at all affiliated institutions

b) Program director and teaching staff

- Program director is a full time faculty member defined by the institution
- Teaching staff must be of adequate size and must provide direct supervision to a resident's competence and level of training in all patient care settings, and provide evidence of scholarly activity
- Evidence of scholarly activity by OMS faculty

c) Facilities and resources

- Facilities and resources must be adequate to provide educational experiences and opportunities required to fulfill the needs of the educational program
- Compliance with institution's policy and application regulations of local, state and federal agencies regarding radiation hygiene and protection, ionizing radiation, hazardous materials, and, bloodborne and infectious diseases
- Certification of all students, faculty and support staff involved in patient care must be certified in basic life support procedures
- Use of private office facilities as a means of providing clinical experiences is not approved unless the facilities are equipped for administration of general anesthesia and sedation for ambulatory patients, and, space equipped for monitoring patients' recovery from ambulatory surgery, general anesthesia and sedation

d) Curriculum and program duration

- Level of specialty area instruction in graduate and postgraduate programs must be comparable
- Minimum duration of program is 48 months of full-time study, including 30 months of clinical OMS service
- Curriculum includes practice and risk management seminars, instruction in coding and nomenclature, and familiarity with parameters of and procedures for obtaining hospital credentials.
- Emergency care experience, including Advanced Trauma Life Support (ATLS) training.

e) Advanced education students

- Includes graduates from institutions in the U.S. accredited by the Commission on Dental Accreditation
- Includes graduates from institutions in Canada accredited by the Commission on Dental Accreditation
- Includes graduates of foreign dental schools who possess equivalent education background and standing

f) Evaluation

- Program director must provide written evaluations of the residents based upon written comments obtained from the teaching staff
- Program director must provide a final written evaluation of each resident upon completion of the program

DIDACTIC COURSES, SEMINARS, AND CONFERENCES

The CODA accreditation standards require the teaching staff to provide weekly departmental seminars and conferences to augment the biomedical science and clinical program. Instruction must include basic sciences, anesthesia, clinical medicine and surgery.

1. Basic sciences. Instruction at an advanced level beyond that of the predoctoral dental curriculum and must include anatomy, physiology, pharmacology, microbiology, pathology, and laboratory dissection to emphasize surgical approaches.

Examples:

- Principles of wound healing
- Physiology of different body systems
- Principles of hemostasis and coagulation
- Immunology and host defense mechanisms
- Pharmacokinetics
- Shock
- Microbiology of infections
- Immunology and host defense mechanisms

2. Physical diagnosis. Instruction includes taking a complete medical history and performing a comprehensive physical evaluation. Physical diagnosis is integrated in a clinical course with adult and pediatric patients.

3. Anesthesia

Examples:

- Indications, contraindications and treatment modifications necessary to provide safe and effective outpatient anesthesia
- Pharmacology of commonly used agents for intravenous sedation and general anesthesia
- Management of anesthesia complications and emergencies
- Treatment plan for healthy pediatric and adult patients as well as patients with complicating factors
- Techniques of pre-emptive analgesia and methods of postoperative pain control

- Adjunctive and emergency medications used during anesthesia, and emergency armamentarium
 - Use of patient monitors and interpretation of data presented
4. Surgical head and neck anatomy. Instruction includes applied surgical head and neck anatomy.

Examples:

- Applications to specific surgical approaches
 - Location of vital structures of the orofacial region that are at risk to injury in trauma, pathology and surgical approaches
 - Anatomy of sites outside of the head and neck region that may be accessed during reconstructive procedures including the chest wall, anterior and posterior pelvis, tibia, and fibula
5. Clinical medicine/physiology. Instruction includes evaluating patients who have conditions in various body systems.

Examples:

- Evaluate patient with cardiac, respiratory or renal disease for risk involved in surgical procedures
 - Endocrine physiology and pathology as related to treatment of diabetic patients
 - Surgical considerations in treatment of patients with acute and chronic hepatic disease
 - Treatment considerations for patients with coagulopathies
 - Treatment considerations for immunocompromised patients
 - Perioperative management of patients who abuse alcohol or other substances
6. OMS and related sciences. There are also courses, seminars and conferences that provide instruction in the broad scope of OMS and related sciences including:

a) Clefts and craniofacial syndromes

Examples:

- Growth and development of the craniofacial skeleton including embryology and post-natal development
- Common congenital anomalies that affect craniofacial skeleton
- Treatment plan for cleft palate and other craniofacial anomalies
- Surgical treatments and operations to treat cleft and craniofacial anomalies
- Collaboration with multidisciplinary team for management of facial clefting and craniofacial anomalies

- Indications for treatment, treatment options, assessment of treatment outcomes

b) Facial cosmetic surgery

Examples:

- Indications, contraindications, and risks/complications associated with cosmetic procedures such as septorhinoplasty, rhytidectomy, brow lift, blepharoplasty, otoplasty, skin resurfacing, localized lipectomy
- Associated surgical anatomy and techniques for various facial cosmetic procedures
- Methods to evaluate face and neck for facial cosmetic procedures
- Indications, contraindications, risks and benefits associated with combined cosmetic surgery with orthognathic surgical procedures
- Laser technologies as applied to facial cosmetic surgery
- Alloplastic facial implants
- Soft tissue augmentation
- Scar revision

c) Dentoalveolar surgery

Examples:

- Soft tissue grafting procedures
- Evaluation and treatment planning
- Preoperative risk assessment
- Postoperative sequelae and complications
- Management of simple, complicated and surgical extractions
- Preprosthetic surgical procedures
- Management of maxillofacial infections

d) Dental implant reconstruction

Examples:

- Patient selection and dental implant reconstruction
- Imaging studies for dental implants
- Bone and soft tissue physiology related to implants
- Biomechanics/biomaterials for implant reconstruction
- Indications and contraindications for dental implants
- Bony augmentation of implant sites
- Zygomatic implants
- Nerve repositioning techniques for dental implants

e) Maxillofacial trauma

Examples:

- Assessment and management of patients with multiple sites of injury
- Management of airway, circulation, neurologic, ophthalmic, and cervical spine injuries
- Assessment and management of soft tissue injury to orofacial complex
- Temporomandibular joint region injuries
- Dentoalveolar, mandibular, zygomatic, orbital, midface trauma
- Naso-orbital-ethmoid fractures
- Frontal sinus injuries
- Orofacial burn injuries
- Surgical treatment planning for patients with multiple maxillofacial injuries
- Implications for pediatric, geriatric and medically compromised patients

f) Oral and maxillofacial pathology

Examples:

- Major disease processes and entities associated with the oral and maxillofacial region
- Differential diagnoses for clinical or radiologic lesions
- Indications for and methods for biopsy and specific preparation
- Evaluation of histopathologic specimens of common pathologic entities
- Indications of and development for differential diagnoses in treatment of oral pathologies
- Medical and surgical treatment for head and neck pathologies

g) Orthognathic surgery

Examples:

- Orthodontic and surgical treatment plan for skeletal dentofacial deformity
- Nonsurgical treatment for skeletal dentofacial deformity
- Evaluation of facial esthetics
- Indications of and procedures for orthognathic surgery
- Complications of orthognathic surgery
- Presurgical workup for orthognathic surgery
- Evaluation of treatment outcomes
- Cephalometric analysis
- Revascularization and healing from orthognathic surgery
- Growth considerations and sequencing of orthognathic surgery

h) Disorders of the temporomandibular joint

Examples:

- Anatomy of temporomandibular articulation
- Pathophysiology of various temporomandibular disorders
- Treatment regimens for management of temporomandibular disorders
- Surgical approaches and procedures for temporomandibular joint disorders
- Nonsurgical regimens for treatment of temporomandibular joint disorders
- Comprehensive pretreatment workup for patients with temporomandibular joint disorders
- Imaging studies for temporomandibular joint disorders
- Evaluation for temporomandibular joint disorders and orofacial pain

i) Tumor and reconstructive surgery

Examples:

- Surgical treatments for major disease processes and entities associated with the oral and maxillofacial region
- Indications for and application of myocutaneous flaps
- Various local soft tissue flaps in treatment of cutaneous disease processes of the face and neck
- Autologous bone grafting principles and techniques
- Allogeneic bone grafting
- Different types of neck dissections in treatment of head and neck malignancies
- Craniofacial implants
- Management of neck masses
- Microneural and microvascular surgery
- Classifications and treatment of nerve injury

CLINICAL SURGICAL SERVICE

The CODA accreditation standards require a minimum of 30 months of oral and maxillofacial surgery to be included in clinical surgical service within a 48-month residency program. Residents must have exposure to outpatient oral and maxillofacial surgery experience, ambulatory general anesthesia and deep sedation, and a broad range of inpatient oral and maxillofacial surgery care, e. g., admission and management of patients, emergency care experience.

- Minimum 12 months of oral and maxillofacial surgery service must be at the senior level of responsibility, 6 months must be in the final year of residency

- Up to 2 months of oral and maxillofacial surgery service may be spent at affiliated institutions or private practice facilities under supervision of teaching staff
- Minimum 4 months of anesthesia service
- Minimum 2 months medical service
- Minimum 4 months of clinical surgical service
- Minimum 2 additional months of clinical surgical or medical education
- Minimum 6 months expanded clinical and/or research opportunities. May be performed in private practice settings. Cases performed during the 6 month period do not count toward the 75 major case requirements.

Residents must perform 75 major surgical cases in their final year, at least 10 cases in each of four categories (trauma, pathology, orthognathic surgery, reconstructive and esthetic surgery). Simultaneous surgical procedures in multiple categories are only counted in one category.

- Trauma includes surgical management and treatment of the maxilla and zygomatico maxillary complex
- Pathology includes management of temporomandibular joint pathology and other procedures, e.g., maxillary sinus procedures, cystectomy of bone and soft tissue, head and neck infections, fifth nerve surgery, surgical management of benign and malignant neoplasms.
- Orthognathic includes surgical correction of functional and esthetic orofacial and craniofacial deformities of the mandible, maxilla, zygoma and other facial bones.
- Reconstructive and esthetic includes reconstructive (bone grafting and soft tissue grafting procedures and insertion of implants, harvesting of bone and soft tissue grafts, facial cleft repair, and augmentation procedures) and esthetic (rhinoplasty, blepharoplasty, rhytidectomy, genioplasty, lipectomy, otoplasty, and scar revision).

REPRESENTATIVE OMS TRAINING PROGRAMS

Information regarding the length of the program, types of core and non-core privileges required for oral and maxillofacial surgery in the training facility, types of clinical rotations, types of lecture/seminar (didactic) topics, and the number of cases in specific surgical categories were gathered from nine OMS residency training programs in California.

While there is some variability in the amount of detail provided by program directors, the information is consistent with CODA accreditation standards and is representative of program particulars for accredited programs throughout the U.S. A summary of the particulars from the nine OMS residency programs in California are presented in Table 2.

ACCREDITED CLINICAL FELLOWSHIP PROGRAMS

Practitioners who enroll in an accredited clinical fellowship in oral and maxillofacial surgery complete advanced training specifically in esthetic oral and maxillofacial surgery. Surgical experience must include a minimum of 125 maxillofacial esthetic cases such as blepharoplasty, brow lifts, treatment of skin lesions, cheiloplasty, genioplasty, otoplasty, rhinoplasty, and rhytidectomy.

Table 2 – Accredited OMS residency programs in California

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
UOP – Highland Hospital, Oakland	<i>4 yr program</i> 3 per yr 12 total	<p>CORE</p> <ul style="list-style-type: none"> • <u>Oral surgery</u> (including antral except endoscopic, cleft palate, dentoalveolar, implant, orthognathic except endoscopic, TMJ except arthroscopic, simple laceration repair, incision and drainage of abscesses intraorally, removal of cysts, tumors, foreign bodies, repair of facial fractures, intraoral open reductions) • <u>Reconstructive</u> (including bone and skin grafts) • <u>Trauma</u> (including frontal sinus fracture, mandibular and midface fractures, nasal fractures, nasoethmoid fractures, repair of soft tissue injury) • <u>Maxillofacial surgery</u> (including salivary glands/ducts, extraoral laceration repair, implant surgery) <p>NON-CORE</p> <ul style="list-style-type: none"> • <u>Anesthesia</u> (including moderate and deep conscious/analgesia for pediatric and adult) • <u>Oral surgery</u> (including antral endoscopic, TMJ arthroscopic, endoscopic orthognathic) • <u>Cosmetic surgery</u> (including facial deformities, facial liposuction) • <u>Facial nerve repair</u> • <u>Laser</u> 	<p><i>4 yr program</i></p> <ul style="list-style-type: none"> • 30 mos OMS service • 4 mos anesthesiology • 2 mos medicine • 2 mos general surgery • 2 mos trauma • 2 mos plastic surgery • 6 mos off-service rotations 	<p>TRAUMA</p> <ul style="list-style-type: none"> • Dissection emergency airway, treatment of midface fractures <p>PATHOLOGY</p> <ul style="list-style-type: none"> • Odontogenic tumors, odontogenic cysts, benign tumors and cysts, malignant neoplasms, vesicul/bulous diseases, squamous cell carcinoma of the jaws <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> • Orthognathics, TMJ considerations in orthognathic surgery, dental implants <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> • Distraction osteogenesis, LeFort I osteotomy and SARPE, anterior and posterior hip grafts, rib grafts, craniofacial syndromes, temporalis flap <p>ESTHETICS</p> <ul style="list-style-type: none"> • Evaluation and techniques for rhinoplasty, evaluation and techniques for the aging face, dermabrasion and laser assisted skin resurfacing, chemical peels, liposuction and lipectomy of the face 	<p>Trauma: 333</p> <p>Pathology: 219</p> <p>Orthognathic: 419</p> <p>Reconstructive, TMJ: 154</p> <p>Dentoalveolar: 100</p> <p>Esthetic: 22</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
UCSF	6 yr program 4 per yr 21 total students	<p>CORE</p> <ul style="list-style-type: none"> • Management of all forms of facial trauma • Corrective jaw surgery • Management of benign and malignant tumors of the head and neck • Temporomandibular joint surgery • Reconstructive surgery including hard and soft tissue • Administration of conscious sedation and general anesthesia <p>NON-CORE</p> <ul style="list-style-type: none"> • All variations of neck dissection • Flap reconstruction 	6 yr program <ul style="list-style-type: none"> • 30 mos OMS service • 10 mos general surgery • 4 mos anesthesia • 3 yrs medical school 	<p>TRAUMA</p> <ul style="list-style-type: none"> • Trauma conference • Endoscopic principles in management of maxillofacial trauma <p>PATHOLOGY</p> <ul style="list-style-type: none"> • Head and neck tumor board • Clinicopathologic correlation conference <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> • Joint orthodontic/orthognathic conference • Cephalometric interpretation <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> • Microvascular and microneurosurgery • Implant conference <p>ESTHETICS</p> <ul style="list-style-type: none"> • Grand rounds lectures 	<p>Trauma: 155</p> <p>Pathology: 176</p> <p>Orthognathic: 140</p> <p>Reconstructive, TMJ: 252</p> <p>Esthetic: 27</p> <p>Implants: 443</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
UOP – Community Medical Center, Fresno	<i>4 yr program</i> 1 per yr 4 total	<p>CORE</p> <ul style="list-style-type: none"> Surgical treatment of facial trauma, craniofacial deformities, head and neck infections, dentoalveolar disorders, benign maxillofacial pathology <p>NON-CORE</p> <ul style="list-style-type: none"> Surgical treatment of malignant maxillofacial pathology (including neck dissection, parotidectomy, radical excision of such tumors), cosmetic surgery of the maxillofacial region (including blepharoplasty, rhytidectomy, septorhinoplasty, brow lift, cervical liposuction) 	<p><i>4 yr program</i></p> <ul style="list-style-type: none"> 30 mos OMS service 4 mos anesthesiology 4 mos trauma 2 mos internal medicine 1 mo pathology or radiology 1 mo emergency 1 mo general surgery 	<p>TRAUMA</p> <ul style="list-style-type: none"> Orofacial soft tissue injury, mandibular and midface fracture management, surgical airway, NOE and frontal sinus injuries, C-spine/cranial trauma, ocular injury <p>PATHOLOGY</p> <ul style="list-style-type: none"> Facial skin cancers, malignant lesion therapy, salivary gland disease, odontogenic cysts and tumors, fibrous lesions and benign non-odontogenic tumors, squamous cell carcinoma <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> Cephalometrics, clinical exam/preoperative evaluation, model surgery, orthodontic treatment considerations, special surgical considerations in for orthognathic surgery in cleft patients, TMD <p>RECONSTRUCTIVE, TMJ</p> <ul style="list-style-type: none"> Autologous bone harvesting and grafting, myocutaneous flaps, maxillofacial reconstructive procedures, bone substitutes, microneural and microvascular surgery, osteoradionecrosis, parameters of care for TMD, nonsurgical management, arthroscopy and arthrocentesis, joint procedures <p>ESTHETICS</p> <ul style="list-style-type: none"> Septoplasty/rhinoplasty, blepharoplasty, liposuction, neck lift, brow lift, rhytidectomy, otoplasty, skin resurfacing 	<p>Trauma: 444</p> <p>Pathology: 47</p> <p>Reconstructive: 88</p> <p>Orthognathic: 90</p> <p>Esthetic: 22</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
Martin Luther King, Jr / Charles R. Drew Medical Center, Los Angeles	4 yr program 1 per yr 4 total	<p>CORE:</p> <ul style="list-style-type: none"> Augmentation and reconstruction of alveolar process, Caldwell-Luc, closed reduction of fractures of mandible/midface, crychothyrotomy, general anesthesia, harvesting of iliac crest for bone grafting, open reduction of fractures of mandible/midface, procurement of skin for grafting, salivary gland and duct surgery, surgical plastic repair of lip and palatal cleft, reconstruction of facial bones, reconstruction of maxillofacial deformities, removal of cysts, tumors, and foreign bodies of the oral and maxillofacial region, surgical repair of oral and facial wounds, TMJ arthroscopy and joint surgery, treatment of trigeminal nerve, treatment of oral/facial infections <p>NON-CORE:</p> <ul style="list-style-type: none"> Laser surgery, prescription privileges 	<p>4 yr program</p> <ul style="list-style-type: none"> 32 mos OMS service 4 mos anesthesiology 4 mos general surgery 2 mos emergency medicine 2 mos internal medicine 1 mo pulmonary 1 mo cardiology 6 mos off-service elective 	<p>TRAUMA</p> <ul style="list-style-type: none"> Management of gunshot wounds of the oral and maxillofacial region, complications of mandibular fractures, management of facial lacerations <p>PATHOLOGY</p> <ul style="list-style-type: none"> Surgical management of odontogenic cysts, non-odontogenic cysts, odontogenic tumors, oral squamous cell carcinoma <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> Revascularization and healing of orthognathic surgical procedures, orthosurgical considerations <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> Surgically assisted maxillary expansion, distraction osteogenesis, vertical ramus osteotomy, BSSO, bone grafting <p>ESTHETICS</p> <ul style="list-style-type: none"> Upper and lower eyelid blepharoplasty, cervicoplasty with submental liposuction and platysmaplasty 	<p>Trauma: 176</p> <p>Pathology: 71</p> <p>Orthognathic: 101</p> <p>Reconstructive: 56</p> <p>Dentoalveolar: 219</p> <p>Esthetics: 12</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
UCLA	6 yr program 2 per yr 12 total	<p>CORE</p> <ul style="list-style-type: none"> Excision of cysts and tumors of soft tissue and bone, open and closed reductions of fractures, emergent tracheostomy, osteotomies, preprosthetic surgery, soft tissue and bone revision and recontouring, bone grafting for augmentation and reconstruction of continuity defects, harvesting and placement of grafts, alloplastic implants, surgical management of oro-antral/oro-nasal fistula, TMJ surgery, sedation and general anesthesia <p>NON-CORE</p> <ul style="list-style-type: none"> Laser surgery of maxillofacial region 	6 yr program <ul style="list-style-type: none"> 30 mos OMS service 4 mos anesthesiology 8 mos trauma 4 mos orthognathic 3 yrs medical school 1 yr general surgery 	<p>TRAUMA</p> <ul style="list-style-type: none"> Mandibular fractures, midface trauma, repair of iatrogenic nerve injuries, head trauma, orbital blowout fractures, rigid internal fixation of the mandible, lag screw fixation of the mandible, soft tissue trauma <p>PATHOLOGY</p> <ul style="list-style-type: none"> Pigmented lesions, avascular necrosis of the mandibular condyle, odontogenic keratocysts, salivary disease, head and neck cancer, dysplastic and epithelial lesions of the mouth, maxillofacial neoplasm, laser surgery <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> Segmental osteotomies, distraction osteogenesis, orthognathic diagnosis and treatment, team approach to orthognathic treatment <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> Clinical research and applications of platelet-rich plasma, bone grafting, distraction osteohistogenesis for TMJ/orthognathic patients, flaps and grafts in head and neck reconstruction, cleft lip and palate, craniofacial syndromes <p>ESTHETICS</p> <ul style="list-style-type: none"> Treatment planning of the cosmetic surgery patient, oculoplastics 	<p>Trauma: 35</p> <p>Pathology, infections: 101</p> <p>Orthognathic: 80</p> <p>Reconstructive: 44</p> <p>TMJ: 27</p> <p>Dentoalveolar: 84</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
USC	<p><i>4 yr program</i> 1 per yr 4 total</p> <p><i>6 yr program</i> 2 per yr 12 total</p>	<p>CORE</p> <ul style="list-style-type: none"> General dentistry, periodontal surgery, endodontic surgery, closed/open reduction of facial fractures, oral-nasal intubation, cricothyroidotomy, perioral and/or intraoral lacerations, repair of head and neck soft tissue injuries, scar revision, intra/extraoral biopsy of hard and soft tissues, repair of oral/antral openings, removal of tumors and cysts, mandibular/maxillary continuity defects, skin grafting procedures, genioplasty, plastic procedures for alveolar process, augmentation procedures utilizing alloplastic and autogenous grafts <p>NON-CORE</p> <ul style="list-style-type: none"> Laser surgery, secondary rhinoplasty, suction aided lipectomy, septal and/or auricular cartilage grafting, greater auricular nerve graft harvesting, surgical procedures of the maxilla, LeFort III, with or without segmentation 	<p><i>4 yr program</i></p> <ul style="list-style-type: none"> 36 mos OMS service 4 mos anesthesia 6 mos off-rotation (2 mos medicine, 4 mos general surgery) 2 mos off-service electives (ophthalmology, ENT, plastics, neurosurgery) <p><i>6 yr program</i></p> <ul style="list-style-type: none"> 28 mos OMS service 4 mos anesthesia 12 mos general surgery 2 mos outpatient clinic 26 mos medical school 	<p>TRAUMA</p> <ul style="list-style-type: none"> Soft tissue trauma; neurologic trauma; ophthalmic; soft tissue; midface; mandibular; sinus; head trauma, gunshot wounds <p>PATHOLOGY</p> <ul style="list-style-type: none"> Head and neck tumors; clinical and diagnostic evaluation; medical oncology in management of head and neck cancers; soft tissue, osseous, implant reconstruction, parotid disease; odontogenic infections <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> Pre- and post-surgical orthognathics; surgical complications; outcomes assessment; rehabilitation; reconstruction <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> Bone grafting, TMJ joint replacement, arthrocentesis, hyperbaric oxygen therapy, staging of head and neck; LeFort osteotomies; dentofacial deformities; alloplastic reconstruction <p>ESTHETICS</p> <ul style="list-style-type: none"> Procedures, management, complications of dermabrasion; wound healing; liposuction, cosmetic surgical procedures; rhytidectomy, forehead and brow; otoplasty; blepharoplasty <p>ANESTHESIA</p> <ul style="list-style-type: none"> Local anesthesia; IV sedation, general anesthesia, regional anesthesia 	<p>Trauma: 699</p> <p>Pathology: 48</p> <p>Orthognathic: 117</p> <p>Reconstructive, TMJ, cleft: 385</p> <p>Esthetic: 10</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
Loma Linda University	<p><i>4 yr program</i> 1 per yr 4 total</p> <p><i>6 yr program</i> 1 per yr 4 total</p>	<p>CORE</p> <ul style="list-style-type: none"> • <u>Surgical procedures to treat various oral and maxillofacial conditions and injuries</u> (including treatment, admission, consultation, work-up, pre- and post-operative) • <u>Intraoral surgery</u> (including dentoalveolar surgery, minor and major lacerations, intraoral biopsy, tumors and cysts, salivary gland surgery, Caldwell-Luc) • <u>Maxillofacial surgery of face and neck</u> (including minor and major infections, soft tissue repair, lip surgery, benign tumors, incision and drainage) • <u>Fractures of the jaws and associated structures</u> (including open and closed reduction of facial fractures) • <u>Maxillofacial reconstructive surgery</u> (including maxillary, zygoma and mandibular osteotomies, microsurgical repair of facial/oral sensory nerves, post-traumatic nasal reconstruction, turbinectomy, TMJ, bone grafting, graft harvesting) • <u>Conscious sedation</u> • <u>Excision of tumors</u> <p>NON-CORE:</p> <ul style="list-style-type: none"> • <u>Extraoral and maxillofacial surgery of face and neck</u> (including salivary gland surgery and malignant tumors of the face) • <u>Maxillofacial surgery of face and neck</u> (including tracheotomy) • <u>Plastic and reconstructive surgery</u> (including otoplasty, rhinoplasty, mentoplasty, rhytidectomy, blepharoplasty, facial liposuction, chemical peel, dermabrasion, pedicle flap procedures, calvarial or iliac crest bone grafts) 	<p><i>4 yr program</i></p> <ul style="list-style-type: none"> • 34 mos OMS service • 4 mos anesthesia • 2 mos internal medicine • 6 mos general surgery • 2 mos surgical elective, e. g., head/neck, plastic surgery <p><i>6 yr program</i></p> <ul style="list-style-type: none"> • 3 yrs medical school • 30 mos OMS service • 12 mos general surgery 	<p>TRAUMA</p> <ul style="list-style-type: none"> • Mandible trauma, zygomatic complex fractures, LeFort I/II/III, NOE, frontal sinus, trachosetomies <p>PATHOLOGY</p> <ul style="list-style-type: none"> • Clinical pathology conference <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> • Distraction osteogenesis, cleft lip/palate surgery, orthognathic cases <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> • Use of soft tissue flaps in facial reconstructive surgery, use of bone grafting, morphogenic protein, mandibular reconstruction <p>ESTHETICS</p> <ul style="list-style-type: none"> • Current trends in facial cosmetic surgery, rhinoplasty 	<p>Trauma: 541</p> <p>Pathology: 179</p> <p>Orthognathic: 309</p> <p>Reconstructive: 173</p> <p>Dentoalveolar: 35</p> <p>Esthetic: 76</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
Travis AFB-- David Grant Medical Center	4 yr program 2 per yr 8 total	<p>CORE</p> <ul style="list-style-type: none"> • <u>Hospital admission/physical examination</u> • <u>Anesthesia</u>: Nitrous oxide, intravenous sedation, general anesthesia, pediatric sedation, • <u>Dentoalveolar</u>: Vestibuloplasty • <u>Pathology</u>: Extraoral incision and drainage of head and neck infections, excision/resection of benign/malignant tumors of the head and neck, excision of reactive lesion, removal of benign tumor, cyst, or neoplasm, removal of exostosis, removal of foreign body, removal of skin lesions salivary gland surgery, vermilionectomy • <u>Grafts</u>: Tissue grafts (skin/dermis/cartilage/bone) bone graft harvest (anterior/posterior Iliac crest, rib, calvarium, tibia, mandible); autogenous/non-autogenous graft; repair soft or hard tissue defect; synthetic graft/implant • <u>Trauma</u>: Tracheotomy, treatment of facial fractures involving (frontal bones, nasal bones, orbital bones, maxilla [LeFort I, II, and III], zygomaticomaxillary complex and arch; mandible), microneural surgical repair, repair/revision of complex lacerations of the face (mandibular reconstruction, arthrocentesis and arthroscopy of the temporomandibular joint (TMJ), cleft repair (palate/lip/alveolus), TMJ surgery and reconstruction); use of laser in head and neck/plastic and reconstructive procedures, partial osteotomy, ectropion repair, local/regional myocutaneous flap reconstruction, frontal sinus ablation/cranialization, tarsorrhaphy • <u>Orthognathic</u>: Distraction osteogenesis • <u>Esthetics</u>: - Septorhinoplasty (open/closed) otoplasty, blepharoplasty, skin resurfacing techniques (laser/chemical/dermabrasion), rhytidectomy, brow lift (direct/endoscopic), Botox injections, lipectomy/liposuction, facial augmentation/implants • <u>Other</u>: Uvulopalatoplasty, turbinectomy <p>EXTENDED</p> <ul style="list-style-type: none"> • Hyperbaric monitoring 	<p>4 yr program</p> <ul style="list-style-type: none"> • 30 mos OMS service • 2 mos internal medicine • 4 mos anesthesia • 4 mos general surgery • 2 mos off-service elective (cardiology, neurosurgery) • 6 mos expanded clinical opportunities (OMS surgery, oral pathology, neuroradiology, research; otolaryngology/ENT, plastic surgery, surgical dermatology) 	<p>TRAUMA</p> <ul style="list-style-type: none"> • Closed head trauma, C-spine injuries, nasal trauma, NOE fractures, frontal sinus injuries, orbital trauma, zygomatic complex fractures, TMJ injuries, mandibular trauma, dentoalveolar trauma <p>PATHOLOGY</p> <ul style="list-style-type: none"> • Melanoma, odontogenic cysts/tumors, salivary gland disorders, osteosarcoma, tumors of fibrous connective tissue origin <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> • Revascularization and healing, distraction osteogenesis, LeFort I osteotomy, BSSO, vertical ramus osteotomy, rigid fixation, surgical complications, orthodontic considerations, SARPE, sleep apnea <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> • Soft tissue flaps, myocutaneous flaps, autologous bone harvesting, allogeneic bone grafting, mandibular/maxillary reconstruction, osteoradionecrosis, craniofacial implants <p>ESTHETICS</p> <ul style="list-style-type: none"> • Evaluation of patient for facial cosmetic surgery, surgical complications, septorhinoplasty, blepharoplasty, neck lift, brow lift, rhytidectomy, otoplasty, skin resurfacing, alloplastic facial implants, scar revision <p>ANESTHESIA</p> <ul style="list-style-type: none"> • Preoperative assessment, management of medical emergencies, IV sedation, adjunctive and emergency medications in anesthesia venipuncture 	<p>Trauma: 119</p> <p>Pathology: 14</p> <p>Orthognathic, craniofacial: 111</p> <p>Reconstructive: 36</p> <p>Esthetic: 84</p>

Institution	Number of residents	Examples of core and non-core privileges for oral surgery	Clinical rotations	Examples of lecture/seminar topics	Number of Cases
Naval Medical Center, San Diego	4 yr program 2 per yr 8 total	<p>CORE</p> <ul style="list-style-type: none"> General dentistry, periodontal surgery, endodontic surgery, closed/open reduction of facial fractures, oral-nasal intubation, repair of head and neck soft tissue injuries, repair or oral-antral openings, removal of tumors and cysts, palatal cleft grafting/repair, mandibular/maxillary continuity defects, genioplasty, secondary rhinoplasty, plastic procedures for alveolar process, conscious sedation <p>EXTENDED</p> <ul style="list-style-type: none"> Surgical laser, laser resurfacing, maxillofacial liposuction, cranial bone graft, dermabrasion, rhinoplasty, blepharoplasty; rhytidectomy, open or endoscopic browlift, otoplasty 	4 yr program <ul style="list-style-type: none"> 31 mos OMS service 4 mos anesthesia 4 mos general surgery 2 mos medicine 2 mos trauma/critical care 1 mos plastic surgery 1 mo neurosurgery 1 mo ENT 1 mo oral pathology 	<p>TRAUMA</p> <ul style="list-style-type: none"> Soft tissue trauma; midface and mandibular trauma; initial trauma management; frontal sinus, NOE, nasal and orbital fractures <p>PATHOLOGY</p> <ul style="list-style-type: none"> Oral pathology; head and neck tumors; odontogenic/nonodontogenic cysts, benign and malignant neoplasms of bone and soft tissue, benign and malignant neoplasms of the salivary glands <p>ORTHOGNATHIC</p> <ul style="list-style-type: none"> Cephalometric tracings, treatment planning in orthognathic surgery, diagnosis and treatment of surgical complications, Lefort, BSSO, IOVO and MAHO osteotomy techniques <p>RECONSTRUCTIVE</p> <ul style="list-style-type: none"> Craniofacial cleft lip/palate, including plastic surgery, maxillofacial prosthodontics; LeFort osteotomies, distraction ostoeogenesis Osseointegrated implants, bone grafting intra- and extra-oral, sinus lifting, dentoalveolar surgery Soft tissue rotational and free flaps, composite free graft <p>ESTHETICS</p> <ul style="list-style-type: none"> Laser surgery, upper and lower blepharoplasty, endoscopic forehead lift, rhytidectomy, rhinoplasty, chemical peel, submental liposuction and platysmaplasty, otoplasty and ear reconstruction <p>ANESTHESIA</p> <ul style="list-style-type: none"> Outpatient general anesthesia Pre-operative physical examination Conscious sedation <p>TMJ</p> <ul style="list-style-type: none"> Diagnosis and nonsurgical management of TMD Pain management Surgical management of TMD <p>MEDICINE</p> <ul style="list-style-type: none"> Medical management of surgical patients 	<p>Trauma: 277</p> <p>Pathology: 173</p> <p>Orthognathic: 158</p> <p>Reconstructive: 205</p> <p>Esthetic: 137</p>

SECTION 5: BOARD CERTIFICATION

OVERVIEW OF THE CREDENTIAL

The Board of Directors of the American Board of Oral and Maxillofacial Surgery (ABOMS) has sole responsibility to administer the specialty board certification examination for OMSs. The seven-member ABOMS Board of Directors, along with its 50-member Examination Committee, is involved in the development of the examination. All ABOMS Directors are actively engaged in the clinical practice of oral and maxillofacial surgery.

Content for the examination is determined by the ABOMS Board of Directors on the basis of contemporary practice of OMS, review of current OMS literature from journals, web-based information, and peer reviewed publications.

The certification process includes a computer-administered comprehensive qualifying examination; a 4-hour case based comprehensive oral examination; and certification maintenance program. The process shares similarities to the structure of surgical training programs or residencies in medical specialties.

REQUIREMENTS

Each candidate submits a case list delineating procedures (Record of Operative Experience) performed as a primary or assistant surgeon, in the last 12 months of the residency training program to the ABOMS Board of Directors as credentials for the certification process. Newly graduated residents submit a case list for 75 cases (at least 10 in each category) in trauma, pathology, orthognathic, and reconstructive and esthetic surgery. Experienced OMSs submit a case list for major surgeries performed in the last 12 months.

The purpose of the case list is to document the candidate's clinical exposures and experience in the residency training program. The case list is used along with the content identified by the Board of Directors to establish the examination content.

ORAL CERTIFYING EXAMINATION

The oral certifying examination has four one-hour sessions:

- a) Surgery I - Dentoalveolar, temporomandibular joint/facial pain, infections, implant surgery
- b) Surgery II – Dentofacial deformities, esthetic surgery, acute post-treatment pain control and trauma

- c) Surgery III – Pathology, reconstructive surgery, cleft lip and palate repair, obstructive sleep apnea, microsurgical repair
- d) Surgery IV – Anesthesia and perioperative medical evaluation and management of pediatric and adult patients

All oral examinations are administered on the same day with two examiners for each surgery section.

A series of cases and corresponding data are presented in each section. Candidates are evaluated on their ability to interpret the material presented and use their clinical judgment. Candidate performance is evaluated in three skill areas:

- Data gathering, diagnosis, treatment planning
- Management
- Treatment variations and complications

Once all of the section scores are compiled, the oral examination is scored as a whole.

COMPARISON WITH OTHER SPECIALTY EXAMINATIONS

Table 3 summarizes the particulars of the OMS board certification examination and two other specialty examinations. The purpose of the summary is to illustrate the depth and breadth of the OMS board certification examination and other related certification examinations. It appears that the written and oral examinations for OMS certification and other related certification examinations are comprehensive and cover a wide range of topics applicable to facial cosmetic surgical procedures.

Table 3 – OMS and other specialty board examinations

	ORAL AND MAXILLOFACIAL SURGERY	PLASTIC SURGERY	OTOLARYNGOLOGY
Credentials	<ul style="list-style-type: none"> • Verification of completion of OMS residency training • Resident evaluation from program director • Dental license • Medical license, if applicable • Record of Operative Experience 	<ul style="list-style-type: none"> • Medical licenses • Letter of admissibility • Other medical specialty certifications • Medical staff privilege letters • Evidence of hospital privileges in plastic surgery • Residency graduation form 	<ul style="list-style-type: none"> • Resident Evaluation Form (annually from program director) • Certified medical school transcript • Verification of surgery training and additional residencies • Verification of medical licenses • Operative Experience Report
Training requirements	<p>Minimum 48 month program</p> <ul style="list-style-type: none"> • 30 months OMS service • 4 months in anesthesia • 2 months clinical medicine • 4 months clinical surgical experience • 2 months of clinical surgical or medical education • 6 months in expanded clinical and/or research opportunities • Basic sciences including anatomy, physiology, pharmacology, microbiology, and pathology • Physical diagnosis 	<p><u>Independent model</u></p> <ul style="list-style-type: none"> • 24-36 months of general surgery • Neurologic surgery, orthopedic surgery, otolaryngology or urology residency • 24 months of general surgery (applies to DMD/MD or DDS/MD only) <p><u>Integrated model</u></p> <ul style="list-style-type: none"> • 5 to 6 years of clinical residency under direction of plastic surgery program director • 24 months concentrated plastic surgery education, 12 months of chief responsibility on clinical service of plastic surgery • Additional clinical experiences, e. g., anesthesiology, burn management, critical care medicine, emergency medicine, cardiothoracic surgery, general surgery, neurological surgery, oncologic surgery, orthopedic surgery, otolaryngology, pediatric surgery, trauma management, vascular surgery 	<ul style="list-style-type: none"> • Minimum 60 month (5 year) program • 48 months of progressive education in specialty • At least 5 months of structured education in three of the following areas: general surgery, thoracic surgery, vascular surgery, plastic surgery, and surgical oncology • At least 1 month of structure education in emergency medicine, critical care, anesthesia, and neurological surgery • At least 4 years of residency training in otolaryngology/head neck surgery
Type of examination	<ul style="list-style-type: none"> • Computer administered comprehensive qualifying examination (7 hours) • Four 1-hour segments of an oral examination in four surgery sections 	<ul style="list-style-type: none"> • Computer administered comprehensive written examination (5 hours) • Three 40-minute segments (one case report, two theory/practice sessions) based on 7 month case list 	<ul style="list-style-type: none"> • Written qualifying examination (7 hours) • Four 50-minute segments of an oral qualifying examination in four surgery sections

	ORAL AND MAXILLOFACIAL SURGERY	PLASTIC SURGERY	OTOLARYNGOLOGY
Format of written exam	<ul style="list-style-type: none"> • 300 multiple-choice items 	<ul style="list-style-type: none"> • 400 multiple-choice items (100 item blocks) 	<ul style="list-style-type: none"> • 300 (200 scoreable, 100 field test) multiple-choice items with four options
Topics covered in written exam	<ul style="list-style-type: none"> • <u>Medical assessment and management</u>: Cardiovascular, respiratory, musculoskeletal/nervous system, endocrine, gastrointestinal, genitourinary, metabolic • <u>Anesthesia</u>: Local anesthesia, conscious sedation, general anesthesia, advanced cardiac life support • <u>Dentoalveolar</u>: erupted teeth, unerupted teeth, preprosthetic surgery, dental implants • <u>Trauma</u>: Dentoalveolar, mandibular, mid/upper face, soft tissue injuries; advanced trauma life support • <u>Orthognathic/cleft/craniofacial</u>: Mandibular, maxillary, bimaxillary deformities; cleft lip and palate; craniofacial syndromes • <u>Cosmetic</u>: Nasal, periorbital, skeletal contour alteration, soft tissue procedures • <u>Temporomandibular disorders/pain</u>: muscle disorders, internal derangments, arthritides, disorders of mobility, temporomandibular joint reconstruction, facial pain • <u>Pathology</u>: infections, benign hard and soft tissue; malignant hard and soft tissue; dermatopathology; salivary gland pathology • <u>Reconstruction</u>: free hard and soft tissue grafts; free vascularized grafts, local flaps, regional pedicled flaps 	<ul style="list-style-type: none"> • Gross and functional anatomy and embryology • Pathology, neoplasms, inflammation and repair • Basic techniques, wound healing, microsurgery, transplantation • Burns, sepsis, metabolism, trauma, resuscitation, nutrition, endocrinology, shock, hematology • Pre- and postoperative care, anesthesia, cardiorespiratory care, complications, clinical pharmacology • Cosmetic and breast surgery • Tumors of the head and neck, skin, and breast • Trunk, lower extremity, musculoskeletal system, pressure ulcers, rehabilitation • Hand, peripheral nerves, rehabilitation • Maxillofacial and craniofacial surgery, microsurgery • Congenital anomalies, genetics, teratology, facial deformity, speech pathology, gynecology and genitourinary problems • Psychiatry, legal medicine 	<ul style="list-style-type: none"> • Basic science • General otolaryngology • Head and neck surgery • Otology/audiology • Plastic and reconstructive surgery

	ORAL AND MAXILLOFACIAL SURGERY	PLASTIC SURGERY	OTOLARYNGOLOGY
Surgery categories in oral exam	<ul style="list-style-type: none"> • <u>Surgery I</u> - Dentoalveolar, temporomandibular joint/facial pain, infections, implant surgery • <u>Surgery II</u> – Dentofacial deformities, esthetic surgery, acute post-treatment pain control, trauma • <u>Surgery III</u> – Pathology, reconstructive surgery, cleft lip and palate repair, obstructive sleep apnea, microsurgical repair • <u>Surgery IV</u> – Anesthesia and perioperative medical evaluation and management of pediatric and adult patients 	<ul style="list-style-type: none"> • Cosmetic • Burn • Cancer • Congenital • Skin • Trauma • Bone and joint • Non-operative 	<ul style="list-style-type: none"> • General otolaryngology • Head and neck surgery • Otology/audiology • Plastic and reconstructive surgery
Scoring categories for oral exam	<ul style="list-style-type: none"> • Data gathering, diagnosis, treatment planning • Management • Treatment variations and complications 	<ul style="list-style-type: none"> • Diagnosis • Management/treatment • Complications/outcome • Clinical judgment/limitations 	<ul style="list-style-type: none"> • Data gathering/interpretation • Differential diagnosis/working diagnosis • Management/treatment, including operative intervention with preoperative and postoperative care
Documentation of cases submitted for oral exam	<p><u>Recent graduates of training programs:</u> 75 major surgical OMS cases performed in last 12 months of residency including adults and children as documented in the Record of Operative Experience</p> <p><u>Experienced OMSs:</u> Major surgical cases performed in the last 12 months</p>	<p>No minimum, applicant submits a detailed compilation of cases from last 7 months. Includes photographic documentation of cases and reports of operative procedures performed, anesthesia, laboratory, pathology, radiology, and progress notes.</p>	<p>No minimum, applicant maintains a log of their surgical procedures on the board website throughout training</p>

	ORAL AND MAXILLOFACIAL SURGERY	PLASTIC SURGERY	OTOLARYNGOLOGY
Types of cases	<ul style="list-style-type: none"> • <u>Dentoalveolar</u>: Extractions, alveoloplasty, exposure of teeth for orthodontic purposes, frenectomies) • <u>Anesthesia</u>: Intravenous sedation, general anesthesia • <u>Trauma</u>: Dentoalveolar, mandibular, fractures (Le Fort, zygomatic maxillary complex, nasal, naso-orbital ethmoid, isolated orbital, frontal sinus) • <u>Pathology</u>: Cysts/beneign neoplasms of bone or soft tissue, malignant neoplasms, dermatopathology, salivary gland pathology, infection • <u>Orthognathic/craniofacial</u>: Mandibular (excluding genioplasty), maxillary, craniofacial • <u>Cosmetic</u>: Genioplasty, rhinoplasty, blepharoplasty, brow lift, rhytidectomy, lipectomy • <u>Reconstruction</u>: maxillary sinus, nerve, cleft lip/palate, alveolar cleft bone graft, dental implants, implant-related procedures (soft tissue, bone grafts, sinus lifts), vestibuloplasty, soft tissue flap, soft tissue graft (excluding vestibuloplasty), bone/hard tissue grafts (excluding alveolar cleft or implant-related) • <u>Temporomandibular joint disorders</u> 	<ul style="list-style-type: none"> • <u>Breast</u> (reduction, augmentation, reconstruction) • <u>Burns</u> (operative, nonoperative, reconstructive) • <u>Congenital defects of the head and neck</u> (cleft lip, cleft palate, other congenital defects) • <u>Cosmetic</u> (face lift, blepharoplasty, rhinoplasty, body contouring, other cosmetic) • <u>Head and neck trauma</u> (nasal, mandibular, zygomatic, orbital, maxillary fractures; other facial trauma) • <u>Head and neck neoplasms</u> (resection, reconstruction) • <u>Upper extremity</u> (skin repair, fingertip, tendon, nerve repair, fracture/dislocation, release contracture, amputation, dupuytren, nerve decompression, other hand) • <u>Lower extremity</u> (flap, other lower extremity) • <u>Skin and soft tissue neoplasm</u> (malignant and benign) • <u>Trunk-genitalia</u> (pressure sore, thoracic flaps; other trunk) • <u>Technique groups</u> (free tissue transfer, lower, flap, bone/skin graft, implant, tissue expansion) 	Not specified, applicant submits log of surgical procedures throughout training

SECTION 6: OTHER PERSON-RELATED COMPONENTS

OPERATIVE REPORTS

OMSs in either Pathway A or B must submit operative reports representative of procedures they intend to perform as documentation of their clinical competence. These operative reports provide documentation of procedures performed during residency as a first assistant or proctored procedures as a surgeon.

Operative reports contain the following elements (JCAHO, 2005):

- Name of the primary surgeon and assistants
- Procedures performed and description of each procedure
- Findings
- Estimated blood loss
- Post operative diagnosis

CONCEPT OF CORE AND NON-CORE SURGICAL PRIVILEGES

Surgical privileges describe what type of activity an OMS may perform in a specific hospital or surgery center and are subject to medical staff bylaws or other governance documents such as rules and regulations, and, policies and procedures, that describe the credentialing, privileging and appointment processes. Surgical privileges¹ can be performed in a variety of settings such as ambulatory or hospital-owned physician office practice settings, so long as the setting has the equipment available, qualified personnel, and physical environment and resources necessary to conduct the surgical procedures.

In general, an applicant would submit credentials to the department chair of which the applicant intends to perform surgical procedures, and, once approved, is reviewed by a hospital credentialing committee. The credentialing committee bases its determination upon an evaluation of the individual's knowledge base, training, experience, current competence, and ability to perform the procedure requested. JCAHO requires that the hospital verify the information provided by the applicant from the primary sources. If the applicant has been in private practice before applying for the privileges, reference letters are obtained from where the individual practiced.

¹ According to the Associate Director of the Department of Standards Interpretation at JCAHO, surgical privileges used to be known as hospital privileges when all surgeries were performed exclusively in hospitals (personal communication, February 8, 2006). Surgical procedures are now performed in hospitals, surgery centers, and physician office practice settings so long as the settings abide by professional standards, e. g., JCAHO, AAAHC, and have the appropriate equipment, qualified personnel, and physical environment and resources to support the procedures. New JCAHO (2004) standards emphasize the importance of setting-specific privileging systems in which each individual has privileges specific to his/her education, training and experience and the setting for which the privileges are requested.

Initial privileges are usually granted for a one year period with final completion of the privileging process dependent on proctoring of a certain number of cases by either the department chair or members of the department in good standing with similar privileges. Once the proctoring and final privileges are granted, they may be renewed every two years (or less) depending upon hospital bylaws upon reappraisal of the applicant's credentials by a credentialing committee. Hospital bylaws must follow JCAHO standards in order to be accredited. In all cases, the applicants are required to provide the verification of surgical experience (surgical logs or operative reports) to support the request for privileges.

For example, USC University Hospital has two categories of privileges. The first category of surgical privileges (core, usual, or customary privileges) include such procedures as general admission, history and physical examination, and typical OMS procedures, e.g., LeFort I/II/III fractures, closed/open reduction of zygomatic fractures, biopsy of hard and/or soft tissues, degenerative joint disease of the temporomandibular joint. The second category of surgical privileges (non-core, advanced, or extended privileges), includes privileges whose scope require documentation of additional education and training specific to the privilege requested.

JCAHO (2004) found the most common methods for classifying privileges are listing of procedures by body parts, patient risk categories, level of training and experience needed, required practitioner specialty, core privileges, or, any combination of patient risk, core, or lists of procedures. To gain a perspective of core and non-core privileges, information was gathered from nine OMS residency training programs. The information is presented below in Table 4.

Table 4 – Core and non-core privileges in OMS residency programs

PROGRAM	LOCATION	CORE	NON-CORE	NOT SPECIFIED
University of the Pacific – Highland Hospital	Oakland		X	
University of California San Francisco	San Francisco			X
University of the Pacific – Community Medical Center	Fresno		X	
Martin Luther King, Jr. /Charles R. Drew Medical Center	Los Angeles			X
University of California Los Angeles	Los Angeles		X	
University of Southern California	Los Angeles		X	
Loma Linda University	Loma Linda		X	
Travis Air Force Base	Travis AFB	X		
Naval Medical Center	San Diego		X	

Only one residency training program (Travis AFB) classified specific facial cosmetic procedures as a core privilege. The Travis program allows the full range of facial cosmetic procedures to be classified as procedures listed as core privileges.

Six of the nine training programs (UOP-Highland Hospital, UOP-Community Medical Center Fresno, UCLA, USC, Loma Linda, and Naval Medical Center) classified facial cosmetic procedures as non-core privileges. It should be noted that USC requires joint approval of the chief surgeons of both plastic and reconstructive surgery and oral and maxillofacial surgery for non-core privileges and allows secondary rhinoplasty (with or without cartilage grafting) and suction aided lipectomy (with or without platysmalplasty) within the category of non-core privileges.

It should also be noted that UCLA classified laser procedures as non-core privileges whereas alloplastic implants were included as a core privilege.

Two programs (UCSF and King/Drew Medical Center) did not specify facial cosmetic procedures as examples of privileges for oral and maxillofacial surgery although King/Drew Medical Center classified laser surgery as a non-core privilege.

SURGICAL PRIVILEGES

According to Section 1638.1(2)(A)(iv), OMSs in Pathway A who wish to perform facial cosmetic procedures are required to have surgical privileges at any licensed general acute care hospital and licensed outpatient surgical facility. The mostly likely applicants who fit these provisions are OMSs who have recently completed accredited training, residency, or fellowship programs and who should be able to perform procedures listed by various hospitals as core privileges based on their residency training.

PRIVILEGES GRANTED BY MEDICAL STAFF

According to Section 1638.1(2)(B)(i), OMSs in Pathway B who wish to perform facial cosmetic procedures are required to have privileges granted by the medical staff at a licensed general acute care hospital to perform the procedures. The most likely applicants who fit these provisions are experienced OMSs who possess surgical privileges at acute care hospitals. Possession of privileges to perform facial cosmetic procedures, combined with operative reports from proctored procedures, would be submitted as verification of the applicant's competence to perform the procedures.

ACTIVE STATUS ON STAFF

OMSs in Pathway A and B are required to be on active status on the staff of a licensed general acute care hospital and maintain the necessary privileges based on the bylaws of the hospital to maintain that status. That is, membership on the medical staff is granted only to practitioners who meet the qualifications, standards and requirements set forth in rules, regulations, and bylaws.

For example, applicants who wish to obtain medical staff membership at Stanford Hospital and Clinics must submit a number of documents including California professional license, Drug Enforcement Agency (DEA) certification, X-ray

certificate, hospital affiliations and work history, verification of graduation and completion of residencies, board certification, malpractice insurance (usual amount is 1 – 3 million), professional liability claims history, background checks, Medicare/Medicaid sanctions, and professional references. The information is processed and verified by the credentialing office of the hospital before the applicant is considered for staff membership.

SECTION 7: PRACTICE ANALYSIS

PURPOSE

The purpose of the occupational (practice analysis) was to identify the actual tasks performed by OMSs in current practice.

APPLICABLE STANDARDS

Standard 14.14 of the Standards for Educational and Psychological Testing (1999) states:

“The content domain to be covered by a credentialing test should be defined clearly and justified in terms of the importance of content for credential worthy performance in an occupation or profession. A rationale should be provided to support a claim that the knowledge or skills being assessed are required for credential worthy performance in an occupation and are consistent with the purpose for which the licensing or certification program was instituted.” (p 161)

METHODOLOGY

General approach

The methodology employed by HZA is analogous to the process involved in a review of the literature for a research study in which references are searched for until no new references can be identified. Similarly, HZA continued data gathering in background research and conducting interviews for the practice analysis until no new tasks or knowledge were identified.

HZA conducted the practice analysis with the assumption that all tasks and knowledge within the scope of oral and maxillofacial surgery would be identified. It was the expectation that some tasks would have low ratings because they were not considered part of the job or were infrequently performed.

In applying this research methodology, a large number of tasks and knowledge are generated. The level of specificity of the tasks and knowledge are controlled in that the conceptual “size” of the tasks and knowledge required about the same amount of work. For example, each task is a unit of work rather than individual steps in a procedure. The task must be a “stand alone” unit of work that does not depend on qualifiers, e.g., properly, correctly, or, upon the context of other tasks to be meaningful.

The underlying knowledge base was derived from information obtained during interviews with OMSs. The knowledge base included organized bodies of knowledge required to perform one or more tasks. For example, the task

“Manage nasal defects and/or deformities” requires a knowledge base such as “Knowledge of limitations of bony reconstruction of the maxillofacial region.” Other bodies of knowledge could include specific therapeutic goals, therapeutic outcomes and outcome assessment indices, known risks and complications, operative techniques and procedures, etc.

Rating scales

Rating scales are important to the outcome of the practice analysis so that the resultant data will reflect importance of tasks and knowledge along a continuum. The anchors on the rating scales, e. g., rarely, seldom, occasionally, often, very often, are constructed to ensure that there are equal intervals between anchors.

Equal intervals are essential to the application of mathematical operations such that there is a meaningful numeric “weight” assigned to that task. This is because the sum of the task ratings determines the relative importance of each content domain of the examination. For example, the mean frequency of the ratings was calculated for the tasks. The sum of the task ratings in a content domain can be divided by the sum of the ratings for all items.

One scale was used to rate the job tasks (see Appendix A). Practitioners were asked to consider the relative frequency in which each task was performed over the past year. Non-response options (“Not Relevant”) were provided in rating scales for the tasks so that respondents could indicate that the task did not apply to their job.

Background research

An important step in conducting a practice analysis is to gain a conceptual understanding of the profession to be evaluated. For this practice analysis, HZA conducted a thorough review of available documentation, reference books and relevant practice guidelines. By reviewing these materials, HZA became familiar with terms and concepts of the profession, e.g., marsupialize/decompress cysts, LeFort I/II/III fractures, zygomaxillary frontal complex fractures, defects of the nasal, orbital and/or ethmoid (NOE) region, bilateral sagittal split osteotomy (BSSO), surgically assisted rapid palatal expansion (SARPE), etc. HZA also became familiar with the settings in which various procedures are performed and the background of the persons who were performing them. For example, several facial cosmetic surgical procedures could be performed by OMSs either as the primary surgeon or as the first assistant.

PROCEDURES

Interviews with practitioners

Sixteen OMSs were interviewed in person or by telephone. Of the 16 OMSs, seven were OMSs who practiced in hospital and private practice settings. Nine were involved in OMS training through accredited residency programs in

California, including two military medical centers. The nine residency programs were considered representative of accredited programs throughout the U.S.

During the interviews, the OMSs were asked to identify the content domains of the job, the types of job tasks performed and the specific knowledge necessary to perform job tasks safely and competently.

Transcription of tasks and knowledge

The information gathered from the interviews was transcribed and combined with information from background materials to develop a preliminary list of job tasks and knowledge statements with a consistent format and language.

Then, the preliminary list was reviewed by several OMSs. Based on the feedback from the OMSs, the wording in the task and knowledge statements was refined until each task and knowledge was of the same conceptual “size”, structured in a consistent format and phrased in consistent technically and conceptually accurate terms. The idea was that every task should be associated with at least one knowledge and every knowledge should be associated with at least one task. The task statements were used as a basis of a survey questionnaire.

Survey questionnaire

The survey questionnaire consisted of two parts. The first part asked practitioners to provide demographic information about themselves and their practice. The second part asked practitioners to rate the relative frequency of 120 tasks.

Distribution and data collection

The survey questionnaire was available online to all OMSs who were members of the California Association of Oral and Maxillofacial Surgeons (CALAOMS) via the Internet. Hard copies of the questionnaire were made available by mail upon request.

The membership roster of CALAOMS was used as a means to contact OMSs directly because there was no existing roster that identified practitioners with a specialty in oral and maxillofacial surgery. Practitioners were notified by FAX and email via the CALAOMS server so that announcement of the practice analysis was less likely to be rejected by electronic “spam” filters. Approximately 21 practitioners, who had no email address or FAX number on file, were notified by mail.

Practitioners who responded online were assigned usernames. The online version allowed respondents to log on multiple times until the questionnaire was completed. The respondent ratings were automatically saved in a database each time the respondent logged off the system. When respondents were satisfied

with their ratings, they selected “Submit” and completed the questionnaire. Once the questionnaire was submitted to the server, no further ratings could be made.

The questionnaires returned by mail were entered into a database and were merged with the database from the questionnaires submitted online in preparation for statistical analysis.

RESULTS

Response rate

Of the 558 practitioners who were contacted for participation in the survey, 86 practitioners responded (15%). One practitioner responded by mail and 85 responded online.

The response rate was somewhat lower than was expected given the importance of the study. There was communication to the OMS community in California that the practice analysis was not a legitimate part of the study even though the Governor’s veto message directed the Department of Consumer Affairs to conduct an occupational (practice) analysis. We can only hypothesize that the resistance to the practice analysis negatively impacted the response rate.

Regardless, the information obtained from those who responded was thorough and consistent. Even with a low response rate, we believe that the OMSs who responded were motivated to seriously consider the questionnaire. Therefore, the results from the occupational analysis provide an accurate description of OMS practice.

Reliability of ratings

All ratings from the questionnaire were evaluated with a standard index of reliability called coefficient alpha (α). Coefficient alpha is an estimate of internal consistency reliability of the respondents’ ratings of job task and knowledge in the questionnaires. Coefficient alpha was highly significant ($r = .98$; $\alpha < .01$) for task ratings.

Respondent demographics

a) Currently practicing as an oral and maxillofacial surgeon

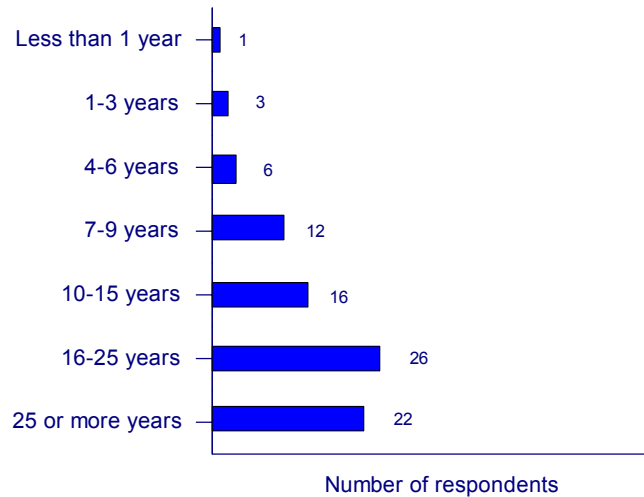
All eighty-six respondents responded “Yes.”

b) Educational background

Of the 86 respondents, 18 held an M. D., and 1 held a Ph. D.

c) Years worked as a full- or part-time document preparer

The majority of respondents had many years of experience (16-25 years; 25 or more years). Only one respondent had less than 1 year of experience.



d) Hours worked per week as an OMS

The majority of respondents worked fulltime (49 respondents worked 30-40 hours per week; and, 31 respondents worked more than 40 hours per week). Six respondents worked 20-29 hours per week.

e) Location where most OMS work is performed

Seventy-seven respondents worked in urban communities of 50,000 or more. Only 9 respondents worked in rural communities.

f) Primary work classification

The majority of respondents (84) identified themselves as practitioners; 2 identified themselves as educators/researchers. There were no respondents that identified themselves as administrators or consultants.

g) Primary work setting

Respondents worked in public/private hospitals (15), surgical centers (26), or teaching hospitals (3), or in other settings (42).

Of the 42 respondents listed as "Other," identified their primary work setting as a private practice (9), private office (15), private office surgery suite (1), office or office-based (15), office/hospital (1), or office facility (1).

h) Primary county of practice

Respondents represented 30 counties across California. The majority of the respondents were from Los Angeles (15) and Orange (10) counties. There were 15 respondents, collectively, from the San Francisco Bay Area (Alameda, Contra Costa, San Francisco, and Santa Clara).

	Frequency
Alameda	2
Butte	1
Contra Costa	6
Fresno	1
Kern	1
Los Angeles	15
Monterey	2
Nevada	2
Orange	10
Placer	2
Riverside	5
Sacramento	2
San Benito	2
San Bernardino	3
San Diego	7
San Francisco	2
San Joaquin	2
San Luis Obispo	1
Santa Barbara	1
Santa Clara	5
Santa Cruz	1
Shasta	1
Solano	1
Sonoma	1
Stanislaus	2
Sutter	1
Tulare	1
Tuolumne	1
Ventura	4
Yolo	1
Total	86

i) Percentage of time in different classes of procedures

Respondents were asked to report the percentage of time spent in different classes of procedures. The category “general surgery” was included as a possible response category for respondents who were dually licensed as physicians.

CATEGORY	RANGE (%)	MAJORITY OF RESPONDENTS
GENERAL SURGERY	0-20	0% (N=75)
DENTOALVEOLAR	10-90	30% (N=15) 40% (N=15) 50% (N=15) 60% (N=15)
PATHOLOGY	0-30	10% (N=76)
TRAUMA	0-30	10% (N=70)
RECONSTRUCTION AND ESTHETICS	0-40	10% (N=41)
CLEFT AND CRANIOFACIAL	0-10	0% (N=67)
TEMPOROMANDIBULAR JOINT DISEASE	0-10	10% (N=36)
OTHER	0-30	0% (N=69)

j) Specialty certifications

Twenty-three respondents indicated that they were certified as OMS by the American Board of Oral and Maxillofacial Surgery (ABOMS). There were no respondents who identified themselves as holding specialty certification in plastic surgery or otolaryngology.

Other certifications mentioned were:

- OMS certification but not by ABOMS
- Diplomate, National Board of Dental Anesthesiology
- Fellow, American Academy of Cosmetic Surgery
- Fellow, American Society for Laser Medicine and Surgery

LINKAGE OF TASKS AND KNOWLEDGE

The content domains of OMS practice are based upon respondents' task ratings from the survey questionnaire and the underlying knowledge base derived from information obtained during interviews with OMSs. The ratings for each task are presented in Appendix B.

The tasks and knowledge were reviewed by a focus group of OMSs for technical accuracy. During the focus group, OMSs were asked to establish the relationship ("linkage") between the tasks and knowledge. Additional knowledge was developed as needed.

SUMMARY OF CONTENT DOMAINS

There are nine content domains, containing 120 task and 173 knowledge statements, listed on the following pages (see Table 5).

- Anesthesia
- General surgery (involves general surgical principles)
- Dentoalveolar surgery
- Maxillofacial pathology
- Maxillofacial trauma
- Maxillofacial reconstruction and esthetics
- Maxillofacial skeletal deformities
- Cleft and craniofacial surgery
- Temporomandibular joint disease

Table 5 – Content domains of OMS practice

CONTENT DOMAIN 1: ANESTHESIA

Tasks	Knowledge (“K”)
<p>T1. Administer local anesthesia. T2. Administer anesthesia for conscious sedation. T3. Administer anesthesia for deep sedation/general anesthesia. T4. Manage anesthetic complications.</p>	<p>K1. K. of routes of administration for different types of anesthesia. K2. K. of specific therapeutic goals for local, conscious sedation, deep sedation/general anesthesia. K3. K. of therapeutic outcomes and outcome assessment indices for local, conscious sedation, and deep sedation/general anesthesia. K4. K. of known risks and complications of different types of anesthesia procedures. K5. K. of patient-based risk factors involved in local, conscious sedation, deep sedation/general anesthesia. K6. K. of indications for local, conscious sedation, deep sedation/general anesthesia. K7. K. of therapeutic standards for anesthesia. K8. K. of operative airway management procedures. K9. K. of preoperative concerns for specific types of anesthesia. K10. K. of procedures for postoperative management for specific types of anesthesia. K11. K. of special considerations for obese patients undergoing anesthesia. K12. K. of special considerations for geriatric patients undergoing anesthesia. K13. K. of special considerations for pregnant or postpartum patients undergoing anesthesia. K14. K. of special considerations for pediatric patients undergoing anesthesia. K15. K. of methods to manage anesthetic emergencies. K16. K. of intubation techniques. K17. K. of advanced cardiac life support.</p>

CONTENT DOMAIN 2: GENERAL SURGERY

Tasks	Knowledge (“K”)
<p>T5. Determine flap design.</p> <p>T6. Develop problem list and diagnosis.</p> <p>T7. Develop surgical treatment plan.</p> <p>T8. Perform tissue harvesting for grafting.</p> <p>T9. Provide postsurgical supportive care, e.g., hyperbaric oxygen therapy, antibiotic therapy.</p>	<p>K18. K. of principles of flap design and development.</p> <p>K19. K. of purposes of local and regional flaps.</p> <p>K20. K. of appropriate sites for harvesting hard and soft tissue.</p> <p>K21. K. of procedures to prevent flap necrosis, dehiscence, and flap tearing.</p> <p>K22. K. of principles of wound healing.</p> <p>K23. K. of basic diagnostic steps to establish a relationship between patient problem with historical information and signs/symptoms of disease or disorder.</p> <p>K24. K. of applied surgical head and neck anatomy.</p> <p>K25. K. of nerve anatomy and physiology.</p> <p>K26. K. of factors affecting surgical access.</p> <p>K27. K. of techniques to establish surgical diagnosis.</p> <p>K28. K. of methods to manage patients with compromising medical conditions.</p> <p>K29. K. of methods to prevent and manage medical emergencies.</p> <p>K30. K. of surgical techniques to minimize nerve damage.</p> <p>K31. K. of general surgical principles and techniques.</p> <p>K32. K. of indications for tissue harvesting of hard and soft tissue.</p> <p>K33. K. of specific factors affecting risk for tissue harvesting.</p> <p>K34. K. of therapeutic standards for tissue harvesting.</p> <p>K35. K. of techniques for preoperative physical examination and ancillary studies for tissue harvesting.</p> <p>K36. K. of preoperative concerns for tissue harvesting.</p> <p>K37. K. of operative procedures and protocols for tissue harvesting.</p> <p>K38. K. of techniques of tissue handling that minimize tissue morbidity or resorption.</p> <p>K39. K. of nutritional considerations for the maxillofacial surgical patient.</p>

CONTENT DOMAIN 3: DENTOALVEOLAR SURGERY

Tasks	Knowledge ("K")
T10. Manage odontogenic infections.	K40. K. of specific therapeutic goals of dentoalveolar surgery.
T11. Perform periodontal surgery.	K41. K. of therapeutic outcomes and outcome assessment indices for dentoalveolar surgery.
T12. Perform endodontic surgery.	K42. K. of known risks and complications of dentoalveolar surgery.
T13. Manage deformities and defects of the dentoalveolar complex.	K43. K. of methods to manage patients with dentoalveolar conditions.
T14. Manage impacted teeth.	K44. K. of patient-based risk factors involved in dentoalveolar surgery.
T15. Perform routine extraction.	K45. K. of indications for dentoalveolar surgery.
T16. Perform surgical extraction.	K46. K. of therapeutic standards for dentoalveolar surgery.
T17. Perform preprosthetic and reconstructive surgery on dentoalveolar complex.	K47. K. of orthodontic considerations of impacted teeth.
T18. Place osseointegrated implants.	K48. K. of operative techniques and procedures for dentoalveolar surgery.
T19. Place zygoma implants.	K49. K. of preoperative concerns for dentoalveolar surgery.
T20. Place orthodontic anchors.	K50. K. of procedures for postoperative management of dentoalveolar patients.
T21. Place grafts of soft and hard tissue.	K51. K. of special considerations for pediatric patients undergoing dentoalveolar surgery.
T22. Place sinus grafts for placement of implants.	K52. K. of special considerations for obese patients undergoing dentoalveolar surgery.
T23. Place dentoalveolar distractors.	K53. K. of special considerations for geriatric patients undergoing dentoalveolar surgery.
T24. Perform vestibuloplasty.	K54. K. of special considerations for pregnant patients undergoing dentoalveolar surgery.
	K55. K. of special considerations for medically compromised patients undergoing dentoalveolar surgery.
	K56. K. of anatomic considerations in dentoalveolar surgery.
	K57. K. of procedures to prevent surgical damage to adjacent structures
	K58. K. of alternatives to traditional alveoloplasty.
	K59. K. of biomechanical considerations for implant prosthetics.
	K60. K. of purposes of different types of implant prosthetics and associated surgical techniques.
	K61. K. of strategies for sequencing/staging of osseointegrated implant surgery.
	K62. K. of esthetic considerations in implant surgery.
	K63. K. of purposes of different retrofill materials for apicoectomy.

CONTENT DOMAIN 4: MAXILLOFACIAL PATHOLOGY

Tasks	Knowledge ("K")
T25. Perform extraoral incision and drainage of infections.	K64. K. of specific therapeutic goals of treatment for oral disease.
T26. Perform intraoral incision and drainage of infections.	K65. K. of therapeutic outcomes and outcome assessment indices of treatment for oral disease.
T27. Marsupialize and/or decompress cysts that cannot be enucleated.	K66. K. of known risks and complications of treatments for oral disease.
T28. Perform excision/resection of benign cysts or tumors.	K67. K. of nonsurgical methods to manage oral disease.
T29. Reduce or remove maxillary exostosis.	K68. K. of patient-based risk factors for oral disease.
T30. Reduce or remove mandibular exostosis.	K69. K. of indications for treatment for oral disease.
T31. Manage bone diseases of the maxillofacial region.	K70. K. of therapeutic standards for treatment of oral disease.
T32. Perform excision/resection of malignant tumors.	K71. K. of operative techniques and procedures for treatment of oral disease.
T33. Perform excision of odontogenic and non-odontogenic lesions.	K72. K. of preoperative concerns for treatment of oral disease.
T34. Perform biopsies.	K73. K. of procedures for postoperative management of patients treated for oral disease.
T35. Manage pathologic soft tissue tumors in maxillofacial region.	K74. K. of principles of management of odontogenic infections.
T36. Manage pathologic skeletal tumors in maxillofacial region.	K75. K. of methods of medical management of bone disease of the maxillofacial region.
T37. Manage tumors of the temporomandibular joint.	K76. K. of stages of oral cancers.
T38. Manage chronic facial pain.	K77. K. of different types of head and neck skin cancers.
	K78. K. of antibiotic and hospital management of infections.
	K79. K. of systemic manifestations of maxillofacial pathology.
	K80. K. of syndromes involving the maxillofacial region.
	K81. K. of methods to manage soft tissue disease of the maxillofacial region.
	K82. K. of methods to manage salivary gland disease.
	K83. K. of methods to manage dentoalveolar antral disease.
	K84. K. of methods to manage myofascial pain.

CONTENT DOMAIN 5: MAXILLOFACIAL TRAUMA

Tasks	Knowledge ("K")
T39. Perform surgical airway management and cervical spine control.	K85. K. of specific therapeutic goals of surgical management of maxillofacial trauma.
T40. Manage hemorrhage.	K86. K. of therapeutic outcomes and outcome assessment indices of surgical management of maxillofacial trauma.
T41. Evaluate neurologic status.	K87. K. of known risks and complications of surgical management of maxillofacial trauma.
T42. Reestablish anatomic zones of the maxillofacial region with proper orientation.	K88. K. of indications for surgical and nonsurgical management of maxillofacial trauma.
T43. Manage soft tissue injuries to oral/perioral, auricle, scalp, periorbital, perinasal, and/or facial regions.	K89. K. of risk factors for surgical and nonsurgical management of maxillofacial trauma.
T44. Manage fractured, luxated and/or exarticulated/avulsed teeth.	K90. K. of therapeutic standards for surgical management of maxillofacial trauma.
T45. Manage alveolar process injuries.	K91. K. of operative techniques and procedures for surgical management of maxillofacial trauma.
T46. Manage injuries to mandibular angle, body, ramus, and symphysis.	K92. K. of preoperative concerns regarding surgical management of maxillofacial trauma.
T47. Manage mandibular condyle injuries.	K93. K. of procedures for postoperative management of patients who have had maxillofacial trauma.
T48. Manage mandibular or mandibular condyle injuries with fixation and/or bone grafts.	K94. K. of special considerations for pediatric patients undergoing surgical management of maxillofacial trauma.
T49. Manage maxillary injuries with fixation and/or bone grafts.	K95. K. of special considerations for geriatric patients undergoing surgical management of maxillofacial trauma.
T50. Manage mandibular or maxillary fractures with fixation.	K96. K. of special considerations for obese patients undergoing surgical management of maxillofacial trauma.
T51. Manage orbital injuries.	K97. K. of special considerations for medically compromised patients undergoing surgical management of maxillofacial trauma.
T52. Manage nasal bone injuries.	K98. K. of anatomic considerations in surgical management of maxillofacial trauma.
T53. Manage frontal sinus injuries.	K99. K. of methods to assess trauma patients.
T54. Manage naso-orbital-ethmoid complex injuries.	K100. K. of special considerations for fractures in edentulous mandibles.
T55. Manage mandibular or maxillary alveolar fractures without manipulation.	K101. K. of special considerations of high-force or avulsive maxillofacial injuries.
T56. Manage traumatic injuries involving the facial and trigeminal nerves.	K102. K. of special considerations for low- and high-energy zygomatic complex fractures.
T57. Manage parotid and/or submandibular gland duct injuries.	K103. K. of anatomic considerations in management of panfacial fractures.
T58. Manage zygomaxillary frontal complex fractures.	K104. K. of methods for maxillofacial reconstruction.
T59. Manage frontal fractures.	K105. K. of special considerations for trauma patients requiring multidisciplinary surgical team.
T60. Manage temporomandibular joint dislocation.	K106. K. of special considerations for immediate vs. delayed reconstruction.
T61. Manage temporal articular eminence fracture.	K107. K. of special considerations for orbital and ocular injuries.
	K108. K. of advanced trauma life support.

CONTENT DOMAIN 6: MAXILLOFACIAL RECONSTRUCTION AND ESTHETICS

Tasks	Knowledge ("K")
<p>T62. Manage defects of the mandible and associated soft tissues. T63. Perform chin augmentation. T64. Manage defects of the maxilla and associated soft tissues. T65. Manage defects of the zygoma and associated soft tissues. T66. Perform augmentation of zygoma. T67. Manage defects of frontal bone and associated structures. T68. Manage defects of the nasal, orbital and/or ethmoid region. T69. Manage external ear deformities. T70. Perform otoplasty. T71. Manage orbital defects. T72. Manage nasal defects and/or deformities. T73. Perform septorhinoplasty/rhinoplasty. T74. Perform lip augmentation (cheiloplasty). T75. Perform maxillofacial contouring. T76. Perform rhytidectomy for cervicofacial soft tissue redundancy. T77. Perform maxillofacial lipectomy. T78. Manage eyelid defects. T79. Perform blepharoplasty. T80. Perform forehead and/or brow lift. T81. Perform resurfacing/rejuvenation of cutaneous facial tissue. T82. Manage neurologic defects in the head and neck. T83. Perform scar revision. T84. Provide botulinum toxin therapy. T85. Perform soft tissue augmentation procedures. T86. Perform contouring of cervical soft tissue. T87. Manage defects of the temporomandibular joint. T88. Manage defects of the soft and hard palate.</p>	<p>K109. K. of specific therapeutic goals of maxillofacial reconstruction and esthetics. K110. K. of therapeutic outcomes and outcome assessment indices of maxillofacial reconstruction and esthetics. K111. K. of known risks and complications of reconstructive and esthetic surgery. K112. K. of patient-based risk factors for reconstructive and esthetic surgery. K113. K. of indications for reconstructive and esthetic surgery. K114. K. of therapeutic standards for reconstructive and esthetic surgery. K115. K. of operative techniques and procedures for reconstructive and esthetic surgery. K116. K. of preoperative concerns for reconstructive and esthetic surgery. K117. K. of procedures for postoperative management of patients who have had reconstructive and esthetic surgery. K118. K. of special considerations for pediatric patients undergoing reconstructive and esthetic surgery. K119. K. of special considerations for geriatric patients undergoing reconstructive and esthetic surgery. K120. K. of special considerations for patients who have had multiple reconstructive and/or esthetic surgeries. K121. K. of limitations of bony reconstruction of the maxillofacial region. K122. K. of soft tissue reconstruction of the maxillofacial region. K123. K. of anatomic considerations for patients undergoing reconstructive and esthetic surgery. K124. K. of biomaterials for maxillofacial reconstruction. K125. K. of principles of microvascular anastomosis. K126. K. of strategies for sequencing/staging of reconstructive surgeries.</p>

CONTENT DOMAIN 7: MAXILLOFACIAL SKELETAL DEFORMITIES

Tasks	Knowledge ("K")
T89. Correct mandibular prognathism/hyperplasia.	K127. K. of specific therapeutic goals for surgical correction of maxillofacial skeletal deformities.
T90. Correct mandibular retrognathism/hypoplasia.	K128. K. of therapeutic outcomes and outcome assessment indices for surgical correction of maxillofacial skeletal deformities.
T91. Correct mandibular asymmetry.	K129. K. of known risks and complications for surgical correction of maxillofacial skeletal deformities.
T92. Correct maxillary hypoplasia/hyperplasia.	K130. K. of patient-based risk factors for maxillofacial skeletal deformities.
T93. Correct apertognathia.	K131. K. of indications for surgical correction of maxillofacial skeletal deformities.
T94. Correct midface hypoplasia/hyperplasia.	K132. K. of therapeutic standards for surgical correction of maxillofacial skeletal deformities.
T95. Correct facial asymmetry.	K133. K. of operative techniques and procedures for surgical correction of maxillofacial skeletal deformities.
T96. Correct facial hypoplasia.	K134. K. of preoperative concerns for surgical correction of maxillofacial skeletal deformities.
T97. Correct zygomatic hypoplasia/hyperplasia.	K135. K. of procedures for postoperative management of patients who have had surgical correction of maxillofacial skeletal deformities.
	K136. K. of special considerations for pediatric patients undergoing surgical correction of maxillofacial skeletal deformities.
	K137. K. of anatomic considerations for surgical correction of maxillofacial skeletal deformities.

CONTENT DOMAIN 8: CLEFT AND CRANIOFACIAL SURGERY

Tasks	Knowledge (“K”)
<p>T98. Correct primary cleft lip deformities.</p> <p>T99. Correct primary cleft palate deformities.</p> <p>T100. Correct congenital velopharyngeal incompetence.</p> <p>T101. Correct congenital soft palate deformities.</p> <p>T102. Correct residual cleft lip and/or nasal deformities requiring secondary management.</p> <p>T103. Correct maxillary alveolar cleft deformities.</p> <p>T104. Correct maxillary palatal cleft deformities.</p> <p>T105. Correct residual maxillofacial skeletal deformities requiring secondary management.</p> <p>T106. Correct craniofacial deformities through intracranial and non-intracranial approaches.</p> <p>T107. Correct secondary craniosynostosis with intracranial approach.</p> <p>T108. Correct orbital and/or naso-orbital deformities.</p> <p>T109. Correct primary facial cleft deformity.</p>	<p>K138. K. of specific therapeutic goals of cleft and craniofacial surgery.</p> <p>K139. K. of therapeutic outcomes and outcome assessment indices of cleft and craniofacial surgery.</p> <p>K140. K. of known risks and complications of cleft and craniofacial surgery.</p> <p>K141. K. of patient-based risk factors for cleft and craniofacial deformities.</p> <p>K142. K. of indications for cleft and craniofacial surgery.</p> <p>K143. K. of therapeutic standards for cleft and craniofacial surgery.</p> <p>K144. K. of operative techniques and procedures for cleft and craniofacial surgery.</p> <p>K145. K. of preoperative concerns for cleft and craniofacial surgery.</p> <p>K146. K. of procedures for postoperative management of patients who have had cleft and craniofacial surgery.</p> <p>K147. K. of special considerations for pediatric patients undergoing cleft and craniofacial surgery.</p> <p>K148. K. of special considerations for comprehensive dental and prosthetic rehabilitation of patients with cleft and craniofacial deformities.</p> <p>K149. K. of strategies for sequencing/staging of cleft and craniofacial surgeries.</p> <p>K150. K. of effect of craniofacial growth and development on cleft and craniofacial surgery.</p> <p>K151. K. of orthopedic and orthodontic clinical considerations for patients with cleft and craniofacial deformities.</p> <p>K152. K. of anatomic considerations for the cleft and craniofacial surgery.</p> <p>K153. K. of nutritional considerations for the cleft and craniofacial patient.</p> <p>K154. K. of craniofacial prostheses.</p> <p>K155. K. of services and care that can be provided by an interdisciplinary craniofacial team.</p> <p>K156. K. of embryological development related to cleft deformities.</p> <p>K157. K. of genetic manifestations of craniofacial deformities.</p>

CONTENT DOMAIN 9: TEMPOROMANDIBULAR JOINT DISEASE

Tasks	Knowledge ("K")
<p>T110. Manage masticatory muscle disorders associated with the temporomandibular joint.</p> <p>T111. Manage internal derangement of the temporomandibular joint.</p> <p>T112. Manage degenerative joint disease associated with the temporomandibular joint.</p> <p>T113. Manage arthritis associated with the temporomandibular joint.</p> <p>T114. Manage mandibular dislocation.</p> <p>T115. Manage temporomandibular ankylosis and restricted jaw motion.</p> <p>T116. Manage condylar hyperplasia or hypoplasia.</p> <p>T117. Manage meniscus disorders of the temporomandibular joint.</p> <p>T118. Place condylar prosthesis.</p> <p>T119. Place temporal prosthesis.</p> <p>T120. Place temporalis flap.</p>	<p>K158. K. of specific therapeutic goals of treatment for temporomandibular joint disease</p> <p>K159. K. of therapeutic outcomes and outcome assessment indices of treatment for temporomandibular joint disease.</p> <p>K160. K. of known risks and complications of temporomandibular joint disease treatments.</p> <p>K161. K. of risk factors for temporomandibular joint disease.</p> <p>K162. K. of indications for surgical management of temporomandibular joint disease.</p> <p>K163. K. of therapeutic standards for treatment of temporomandibular joint disease.</p> <p>K164. K. of operative techniques and procedures for surgical management of temporomandibular joint disease.</p> <p>K165. K. of anatomy and pathophysiology of the temporomandibular joint.</p> <p>K166. K. of methods of nonsurgical management of temporomandibular disorders.</p> <p>K167. K. of preoperative concerns for patient undergoing treatment for temporomandibular joint disease.</p> <p>K168. K. of procedures for postoperative management of patients undergoing treatment for temporomandibular joint disease.</p> <p>K169. K. of special considerations for pediatric patients undergoing treatment for temporomandibular joint disease.</p> <p>K170. K. of stages of temporomandibular joint disease.</p> <p>K171. K. of neurophysiology of facial pain.</p> <p>K172. K. of headaches and other chronic head pains of dental interest.</p> <p>K173. K. of methods to evaluate patients who present with jaw or face pain of nonodontogenic origin.</p>

SECTION 8: OTHER JOB-RELATED COMPONENTS

MALPRACTICE INSURANCE

Senate Bill 438 would require holders of the proposed permit who wish to perform elective facial cosmetic surgical procedures to have malpractice insurance or other financial security protection, thereby requiring the permit holders to follow same standards as physician and surgeons. This provision is consistent with existing statutes that apply to malpractice insurance.

Section 2216.2 of California Business and Professions Code states:

- (a) It is unprofessional conduct for a physician and surgeon to fail to provide adequate security by liability insurance, or by participation in an interindemnity trust, for claims by patients arising out of surgical procedures performed outside of a general acute care hospital as defined in subdivision (a) of Section 1250 of the Health and Safety Code.*
- (b) For purposes of this section, the board shall determine what constitutes adequate security.*
- (c) Nothing in this section shall require an insurer admitted to transact liability insurance in this state to provide coverage to a physician and surgeon*
- (d) The security required by this section shall be acceptable only if provided by any one of the following:*
 - (1) An insurer admitted pursuant to Section 700 of the Insurance Code to transact liability insurance in this state.*
 - (2) An insurer that appears on the list of eligible surplus line insurers pursuant to subdivision (f) of Section 1765.1 of the Insurance Code.*
 - (3) A cooperative corporation authorized by Section 1280.7 of the Insurance Code.*
 - (4) An insurer licensed to transact liability insurance in at least one state of the United States.*

Additionally, Section 1319 of California Health and Safety Code states:

The rules of a health facility may include provisions that require every member of the medical staff to have professional liability insurance as a condition to being on the medical staff of the health facility.

SECTION 9: LINKAGE TO COSMETIC PROCEDURES

PURPOSE

The purpose of linking tasks and knowledge to facial cosmetic surgical procedures is to establish validity evidence that links the relevant competencies from the person components and job related components to performance of elective facial cosmetic surgical procedures.

APPLICABLE STANDARDS

The most relevant standards applicable to linking competencies in a credentialing procedure are:

- Standard 14.9 *“When evidence of validity based on test content is the primary source of validity evidence in support of the use of a test in selection or promotion, a close link between the test content and job content should be demonstrated.”*
(p. 160)
- Standard 14.13 *“When decision makers integrate information from multiple tests or integrate test and nontest information, the role played by each test in the decision process should be clearly explicated, and the use of each test or test composition should be supported by validity evidence.”*
(p. 161)

PROCEDURES

A focus group of practicing OMSs was utilized to link the competencies from the practice analysis and clinical experience obtained in residency training.

Linkage of practice analysis to relevant competencies

The focus group was asked to consider the tasks and knowledge from the practice analysis and identify which tasks and knowledge were applicable to elective facial cosmetic procedures (see Figure 2). One hundred twelve knowledge statements from nine content domains were linked to elective facial cosmetic procedures (see Table 6).

Figure 2 – Linkage to practice analysis

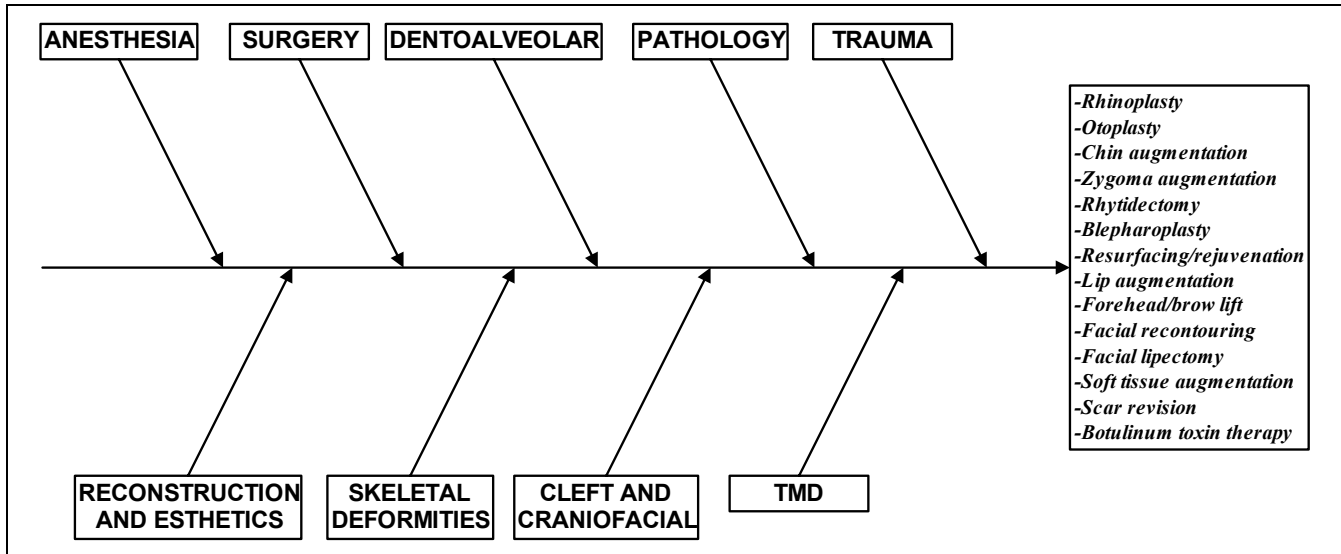


Table 6 – Tasks and knowledge relevant to cosmetic procedures

Tasks

- T1. Perform chin augmentation
- T2. Perform augmentation of zygoma.
- T3. Perform otoplasty.
- T4. Perform septorhinoplasty/rhinoplasty.
- T5. Perform lip augmentation (cheiloplasty).
- T6. Perform maxillofacial contouring.
- T7. Perform rhytidectomy for cervicofacial soft tissue redundancy.
- T8. Perform maxillofacial lipectomy.
- T9. Perform blepharoplasty.
- T10. Perform forehead and/or brow lift.
- T11. Perform resurfacing/rejuvenation of cutaneous facial tissue.
- T12. Perform scar revision.
- T13. Perform botulinum toxin therapy.
- T14. Perform soft tissue augmentation procedures.
- T15. Perform contouring of cervical soft tissue.

Knowledge (“K”)

From Content Domain 1: Anesthesia

- K1. K. of routes of administration for different types of anesthesia.
- K2. K. of specific therapeutic goals for local, conscious sedation, deep sedation/general anesthesia.
- K3. K. of therapeutic outcomes and outcome assessment indices for local, conscious sedation, and deep sedation/general anesthesia.
- K4. K. of patient-based risk factors involved in local, conscious sedation, deep sedation/general anesthesia.

- K5. K. of indications for local, conscious sedation, deep sedation/general anesthesia.
- K6. K. of therapeutic standards for anesthesia.
- K7. K. of operative airway management procedures.
- K8. K. of special considerations for obese patients undergoing anesthesia.
- K9. K. of special considerations for geriatric patients undergoing anesthesia.
- K10. K. of methods to manage anesthetic emergencies.
- K11. K. of intubation techniques.
- K12. K. of advanced cardiac life support.

From Content Domain 2: General surgery

- K13. K. of principles of flap design and development.
- K14. K. of purposes of local and regional flaps.
- K15. K. of appropriate sites for harvesting hard and soft tissue.
- K16. K. of procedures to prevent flap necrosis, dehiscence, and flap tearing.
- K17. K. of principles of wound healing.
- K18. K. of basic diagnostic steps to establish a relationship between patient problem with historical information and signs/symptoms of disease or disorder.
- K19. K. of applied surgical head and neck anatomy.
- K20. K. of nerve anatomy and physiology.
- K21. K. of factors affecting surgical access.
- K22. K. of techniques to establish surgical diagnosis.
- K23. K. of methods to manage patients with compromising medical conditions.
- K24. K. of surgical techniques to minimize nerve damage.
- K25. K. of general surgical principles and techniques.
- K26. K. of indications for tissue harvesting of hard and soft tissue.
- K27. K. of specific factors affecting risk for tissue harvesting.
- K28. K. of therapeutic standards for tissue harvesting.
- K29. K. of techniques for preoperative physical examination and ancillary studies for tissue harvesting.
- K30. K. of preoperative concerns for tissue harvesting.
- K31. K. of operative procedures and protocols for tissue harvesting.
- K32. K. of techniques of tissue handling that minimize tissue morbidity or resorption.
- K33. K. of nutritional considerations for the maxillofacial surgical patient.

From Content Domain 3: Dentoalveolar surgery

- K34. K. of anatomic considerations in dentoalveolar surgery.
- K35. K. of biomechanical considerations for implant prosthetics.

From Content Domain 4: Maxillofacial pathology

- K36. K. of known risks and complications of treatments for oral disease.
- K37. K. of nonsurgical methods to manage oral disease.
- K38. K. of patient-based risk factors for oral disease.
- K39. K. of operative techniques and procedures for treatment of oral disease.
- K40. K. of preoperative concerns for treatment of oral disease.
- K41. K. of procedures for postoperative management of patients treated for oral disease.
- K42. K. of principles of management of odontogenic infections.
- K43. K. of antibiotic and hospital management of infections.

From Content Domain 5: Maxillofacial trauma

- K44. K. of specific therapeutic goals of surgical management of maxillofacial trauma.
- K45. K. of therapeutic outcomes and outcome assessment indices of surgical management of maxillofacial trauma.
- K46. K. of known risks and complications of surgical management of maxillofacial trauma.
- K47. K. of indications for surgical and nonsurgical management of maxillofacial trauma.
- K48. K. of risk factors for surgical and nonsurgical management of maxillofacial trauma.
- K49. K. of special considerations for pediatric patients undergoing surgical management of maxillofacial trauma.
- K50. K. of special considerations for geriatric patients undergoing surgical management of maxillofacial trauma.
- K51. K. of special considerations for obese patients undergoing surgical management of maxillofacial trauma.
- K52. K. of anatomic considerations in surgical management of maxillofacial trauma.
- K53. K. of methods to assess trauma patients.
- K54. K. of special considerations of high-force or avulsive maxillofacial injuries.
- K55. K. of special considerations for low- and high-energy zygomatic complex fractures.
- K56. K. of anatomic considerations in management of panfacial fractures.
- K57. K. of methods for maxillofacial reconstruction.
- K58. K. of special considerations for immediate vs. delayed reconstruction.
- K59. K. of special considerations for orbital and ocular injuries.
- K60. K. of advanced trauma life support.

From Content Domain 6: Maxillofacial reconstruction and esthetics

- K61. K. of specific therapeutic goals of maxillofacial reconstruction and esthetics.
- K62. K. of therapeutic outcomes and outcome assessment indices of maxillofacial reconstruction and esthetics.
- K63. K. of known risks and complications of reconstructive and esthetic surgery.
- K64. K. of patient-based risk factors for reconstructive and esthetic surgery.
- K65. K. of indications for reconstructive and esthetic surgery.
- K66. K. of therapeutic standards for reconstructive and esthetic surgery.
- K67. K. of operative techniques and procedures for reconstructive and esthetic surgery.
- K68. K. of preoperative concerns for reconstructive and esthetic surgery.
- K69. K. of procedures for postoperative management of patients who have had reconstructive and esthetic surgery.
- K70. K. of special considerations for pediatric patients undergoing reconstructive and esthetic surgery.
- K71. K. of special considerations for geriatric patients undergoing reconstructive and esthetic surgery.
- K72. K. of special considerations for patients who have had multiple reconstructive and/or esthetic surgeries.
- K73. K. of limitations of bony reconstruction of the maxillofacial region.
- K74. K. of soft tissue reconstruction of the maxillofacial region.
- K75. K. of anatomic considerations for patients undergoing reconstructive and esthetic surgery.
- K76. K. of biomaterials for maxillofacial reconstruction.
- K77. K. of principles of microvascular anastomosis.

K78. K. of strategies for sequencing/staging of reconstructive surgeries.

From Content Domain 7: Maxillofacial skeletal deformities

- K79. K. of specific therapeutic goals for surgical correction of maxillofacial skeletal deformities.
- K80. K. of therapeutic outcomes and outcome assessment indices for surgical correction of maxillofacial skeletal deformities.
- K81. K. of known risks and complications for surgical correction of maxillofacial skeletal deformities.
- K82. K. of patient-based risk factors for maxillofacial skeletal deformities.
- K83. K. of indications for surgical correction of maxillofacial skeletal deformities.
- K84. K. of therapeutic standards for surgical correction of maxillofacial skeletal deformities.
- K85. K. of operative techniques and procedures for surgical correction of maxillofacial skeletal deformities.
- K86. K. of preoperative concerns for surgical correction of maxillofacial skeletal deformities.
- K87. K. of procedures for postoperative management of patients who have had surgical correction of maxillofacial skeletal deformities.
- K88. K. of special considerations for pediatric patients undergoing surgical correction of maxillofacial skeletal deformities.
- K89. K. of anatomic considerations for surgical correction of maxillofacial skeletal deformities.

From Content Domain 8: Cleft and craniofacial surgery

- K90. K. of specific therapeutic goals of cleft and craniofacial surgery.
- K91. K. of therapeutic outcomes and outcome assessment indices of cleft and craniofacial surgery.
- K92. K. of known risks and complications of cleft and craniofacial surgery.
- K93. K. of patient-based risk factors for cleft and craniofacial deformities.
- K94. K. of indications for cleft and craniofacial surgery.
- K95. K. of therapeutic standards for cleft and craniofacial surgery.
- K96. K. of operative techniques and procedures for cleft and craniofacial surgery.
- K97. K. of preoperative concerns for cleft and craniofacial surgery.
- K98. K. of procedures for postoperative management of patients who have had cleft and craniofacial surgery.
- K99. K. of special considerations for pediatric patients undergoing cleft and craniofacial surgery.
- K100. K. of special considerations for comprehensive dental and prosthetic rehabilitation of patients with cleft and craniofacial deformities.
- K101. K. of strategies for sequencing/staging of cleft and craniofacial surgeries.
- K102. K. of effect of craniofacial growth and development on cleft and craniofacial surgery.
- K103. K. of orthopedic and orthodontic clinical considerations for patients with cleft and craniofacial deformities.
- K104. K. of anatomic considerations for the cleft and craniofacial surgery.
- K105. K. of nutritional considerations for the cleft and craniofacial patient.
- K106. K. of craniofacial prostheses.
- K107. K. of services and care that can be provided by an interdisciplinary craniofacial team.
- K108. K. of embryological development related to cleft deformities.

K109. K. of genetic manifestations of craniofacial abnormalities

From Content Domain 9: Temporomandibular joint disease

K110. K. of operative techniques and procedures for surgical management of temporomandibular joint disease.

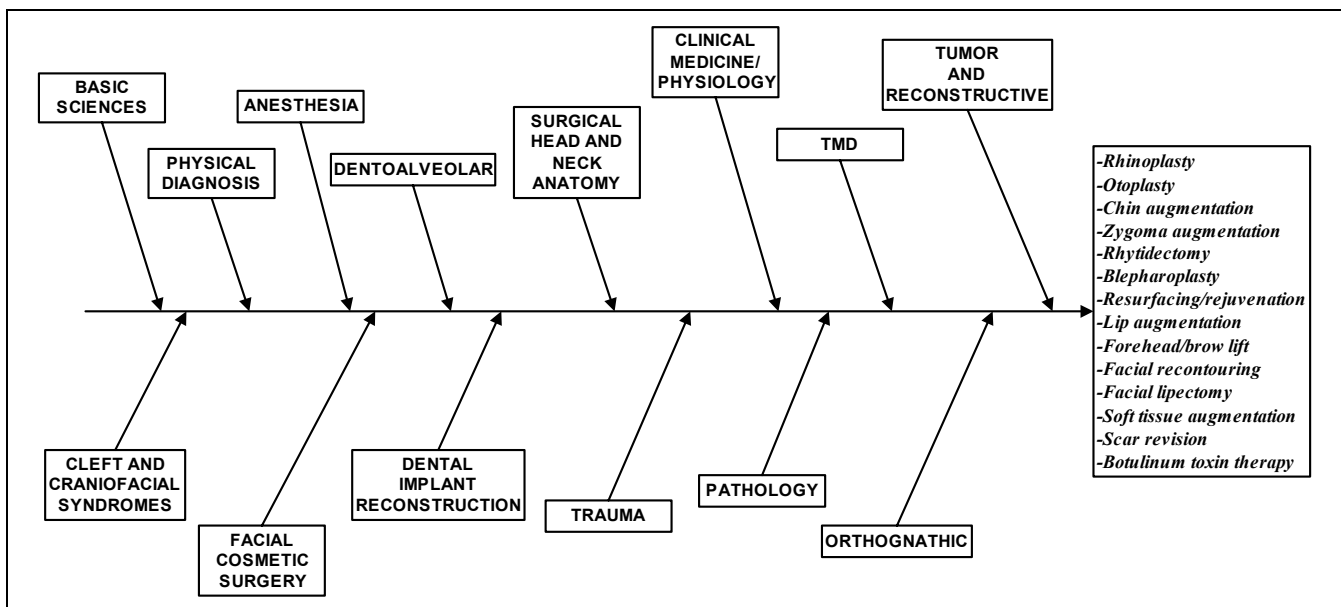
K111. K. of anatomy and pathophysiology of the temporomandibular joint.

K112. K. of methods of nonsurgical management of temporomandibular disorders.

Linkage of didactic curriculum in residency to relevant competencies

The focus group was asked to consider the knowledge acquired during residency training and link the knowledge to elective facial cosmetic procedures (see Figure 3).

Figure 3 - Linkage to didactic curriculum



- (1) Basic sciences: Understand anatomy, physiology, pharmacology, microbiology, pathology, and laboratory dissection that emphasize surgical approaches.
- (2) Physical diagnosis: Perform complete medical history and perform a comprehensive physical evaluation.
- (3) Anesthesia: Understand indications, contraindications and treatment modifications to provide safe and effective anesthesia; pharmacology of commonly used agents; management of anesthesia complications and emergencies; pre-emptive analgesia and postoperative pain control.
- (4) Surgical head and neck anatomy: Apply anatomical principles to surgical procedures performed on the head and neck; location of vital structures that are at risk during surgery; anatomy of sites outside of the head and neck region that may be accessed during reconstructive procedures.

(5) Clinical medicine/physiology: Evaluate patients who have conditions in various body systems, e. g., cardiac, respiratory, renal; treatment/surgical considerations in treatment of patients with compromising conditions.

(6) OMS and related sciences including and not limited to:

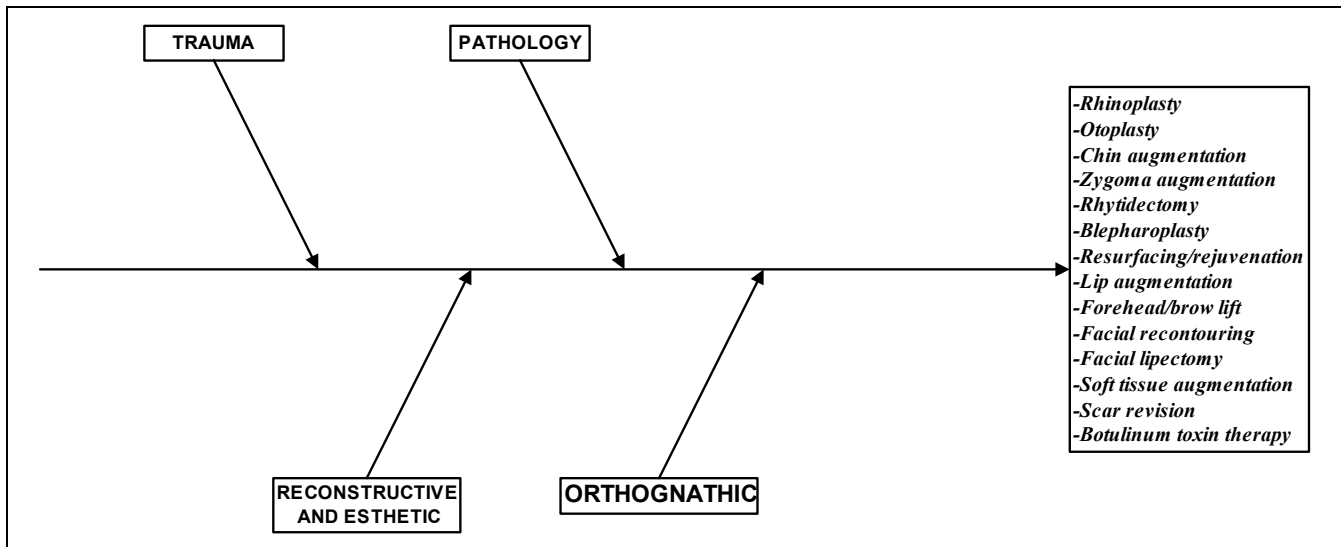
- a) Clefts and craniofacial syndrome: Growth and development of craniofacial skeleton, common congenital anomalies that affect craniofacial skeleton, treatment plan for cleft palate and other craniofacial anomalies, collaboration with multidisciplinary team for management of cleft and craniofacial anomalies.
- b) Facial cosmetic surgery: Indications, contraindications, risks/complications associated with cosmetic procedures; associated surgical anatomy; facial cosmetic techniques; soft tissue augmentation, scar revision, laser technologies.
- c) Dentoalveolar surgery: Soft tissue grafting procedures, management of maxillofacial infections.
- d) Dental implant reconstruction: Bone and soft tissue physiology related to implants; bony augmentation of implant sites, nerve repositioning techniques for dental implants; zygomatic implants.
- e) Maxillofacial trauma: Assessment and management of patients with multiple sites of injury; management of airway, circulation, neurological, ophthalmic, and cervical spine injuries; assessment and management of soft tissue injury to orofacial complex; naso-orbital-ethmoid fractures, implications for compromised patients.
- f) Oral and maxillofacial pathology: Major disease processes and entities associated with the oral and maxillofacial region, medical and surgical treatment for head and neck pathologies, indications of and development for differential diagnoses in treatment of oral pathologies.
- g) Orthognathic surgery: Surgical treatment plan for skeletal dentofacial deformity; evaluation of facial esthetics; indications, procedures and complication of orthognathic surgery, evaluation of treatment outcomes, revascularization and healing, sequencing of orthognathic surgery.
- h) Temporomandibular joint disease: Anatomy of temporomandibular articulation; surgical approaches and procedures for temporomandibular joint disorders; nonsurgical regimens for treatment of temporomandibular joint disorders, pathophysiology of various temporomandibular disorders; imaging studies for temporomandibular joint disorders; evaluation for temporomandibular joint disorders and orofacial pain.
- i) Tumor and reconstructive surgery: Surgical treatments for major entities associated with the oral and maxillofacial region; indications for and application of myocutaneous flaps; various local soft tissue flaps; autologous bone grafting

principles and techniques; allogeneic bone grafting; neck dissections; craniofacial implants, microneural and microvascular surgery.

Linkage of competencies acquired from OMS residency

The focus group was asked to consider the clinical competencies acquired during residency training. The clinical competencies were classified in four categories of surgical cases (see Figure 4).

Figure 4 - Linkage to clinical competencies in OMS clinical experience



- (1) Trauma: Includes surgical management and treatment of maxilla and zygomatico maxillary complex
- (2) Pathology: Includes management of head and neck infections, management of benign and malignant neoplasms, fifth nerve surgery, surgical management of benign and malignant neoplasms.
- (3) Orthognathic: Includes surgical correction of deformities of the mandible, maxilla, zygoma and other facial bones.
- (4) Reconstructive and esthetic: Reconstructive includes augmentation procedures, insertion of implants, facial cleft repair and other reconstructive surgery. Esthetic includes rhinoplasty, blepharoplasty, rhytidectomy, genioplasty, lipectomy, otoplasty, and scar revision.

SECTION 10: FINDINGS AND CONCLUSIONS

FINDINGS REGARDING SPECIFIC REQUIREMENTS AND PROVISIONS

1. ICON requirement #1: Perform an occupational analysis, or equivalent and defensible process to examine the existing educational and training requirements for the OMS profession.

Findings. The existing educational and training requirements were comprehensively examined from several perspectives: a practice analysis of current OMS practice, interviews with practitioners and residency training program directors and staff, review of didactic curriculum and clinical rotations of accredited residency training programs, and review of accreditation standards for residency training programs.

Currently, OMSs can perform elective facial esthetic procedures in the capacity of primary surgeon or first assistant. Practitioners who have already fulfilled the requirements for Pathway A receive didactic instruction specifically about these procedures and are provided opportunities in clinical rotations to perform these procedures. Practitioners who have already fulfilled the requirements for Pathway B have surgical privileges to perform elective facial cosmetic surgical procedures and have already provided credentials to credentialing committees that verify their competence to perform the procedures.

2. ICON requirement #2: Make an assessment as to whether the additional permitted standards proposed in Senate Bill 1336 (re-enrolled as Senate 438) would enable the OMS to practice safely and competently in the expanded situation allowed for by the bill.

Findings. Under this permit, OMSs would undergo the same scrutiny as medical professionals when submitting their credentials for surgical privileges regardless of experience level. Practitioners who fulfill the requirements for Pathway A would have obtained core privileges and demonstrated their clinical competence in order to provide 10 operative reports documenting their surgical skills in two categories of elective facial cosmetic procedures to obtain non-core privileges (cosmetic contouring of the osteocartilaginous facial structure, cosmetic soft tissue contouring or rejuvenation).

Practitioners who fulfill the requirements for Pathway B currently have surgical privileges to perform elective facial cosmetic surgical procedures and have already provided credentials to credentialing committees verifying their competence to perform the procedures. These practitioners are still required to provide 10 operative reports documenting their surgical skills in facial cosmetic procedures to obtain the proposed permit. Additionally, these practitioners may have obtained malpractice insurance to perform facial cosmetic surgical procedures.

3. Senate Bill 438, Section 1638.1(c)(1) – Proof of successful completion of an oral and maxillofacial surgery residency program accredited by the Commission on Dental Accreditation of the American Dental Association.

Findings. Practitioners who fulfill the requirements of Pathway A or Pathway B possess written documentation of proof of completion of their oral and maxillofacial surgery residency program.

4. Senate Bill 438, Section 1638.1(c)(2)(A)(i) – Is certified, or is a candidate for certification, by the American Board of Oral and Maxillofacial Surgery.

Findings. Practitioners who fulfill the requirements for Pathway A could provide proof of certification by the American Board of Oral and Maxillofacial Surgery, if certified. If they are a candidate for certification, they would be required to fulfill all requirements for certification except for the written and oral qualifying examination, including submission of 75 operative reports of procedures conducted in the last 12 months.

5. Senate Bill 438, Section 1638.1(c)(2)(A)(ii) – Submits to the board a letter from the program director of the accredited residency program, or from the director of a postresidency fellowship program accredited by the Commission on Dental Accreditation of the American Dental Association, stating that the licensee has the education, training, and competence necessary to perform the surgical procedures that the licensee has notified the board he or she intends to perform.

Findings. Practitioners who fulfill the requirements of Pathway A would receive verification of training and evaluation from the program director upon completion of the residency or fellowship program. In the program director's verification would be an evaluation of the licensee's education, training and competence to perform elective facial cosmetic procedures.

6. Senate Bill 438, Section 1638.1(c)(2)(A)(iii) – Submits documentation to the board of at least 10 operative reports from residency training or proctored procedures that are representative of procedures that the licensee intends to perform. Includes both cosmetic contouring of the osteocartilaginous facial structure, e. g., rhinoplasty and otoplasty, and cosmetic soft tissue contouring or rejuvenation, e. g., facelift, blepharoplasty, facial skin resurfacing, or lip augmentation.

Findings. Practitioners who fulfill requirements of Pathway A or Pathway B can provide 10 operative reports verifying their clinical competence in the two categories of facial cosmetic surgery cited in the bill. Pathway A practitioners would submit operative reports from the last 12 months of their residency or postgraduate fellowship program. Pathway B practitioners would submit 10 or more operative reports from their current practice.

7. Senate Bill 438, Section 1638.1(c)(2)(A)(iv) – Documentation showing surgical privileges that the applicant possess at any licensed general acute care hospital and any licensed outpatient surgical facility in this state.

Findings. Practitioners who fulfill requirements of Pathway A possess surgical privileges at licensed general acute care hospitals or licensed outpatient surgical facilities in California. These practitioners would possess core surgical privileges and could provide documentation to that effect.

8. Senate Bill 438, Section 1638.1(c)(2)(B)(iv) – Has been granted privileges by the medical staff at a licensed general acute care hospital to perform the surgical procedures set forth in paragraph (A) at that hospital.

Findings. Practitioners who fulfill the requirements of Pathway B have already been granted privileges to perform elective facial cosmetic surgical procedures and are currently performing the procedures in practice. To obtain surgical privileges for these procedures the practitioners must submit credentials to a credentialing committee.

9. Senate Bill 438, Section 1638.1(c)(2)(B)(ii) – Submits to the board the documentation described in clause (iii) of subparagraph (A).

Findings. Practitioners who fulfill the requirements of Pathway B can readily provide operative reports from 10 or more surgeries in the two categories of facial cosmetic surgery specified in the bill: cosmetic contouring of the osteocartilaginous facial structure (e. g., rhinoplasty and otoplasty) and cosmetic soft tissue contouring or rejuvenation (e. g., facelift, blepharoplasty, facial skin resurfacing, or lip augmentation).

10. Senate Bill 438, Section 1638.1(c)(3) – Proof that the applicant is on active status on the staff of a general acute care hospital and maintains the necessary privileges based on the bylaws of the hospital to maintain that status.

Findings. Practitioners who fulfill the requirements of either Pathway A or Pathway B are required to submit credentials to obtain medical staff membership, which may include professional license, DEA certification, X-ray certificate, hospital affiliations and work history, verification of graduation and completion of residencies, board certification, malpractice insurance, professional liability claims history, background checks, Medicare/Medicaid sanctions, and professional references. There may be slight variations from facility to facility; however, it is unlikely that the basic requirements are different.

11. Senate Bill 438, Section 1638.1(h) – A holder of a permit issued pursuant to this section shall not perform elective facial cosmetic surgical procedures unless he or she has malpractice insurance or other financial security protection that would satisfy the requirements of Section 2216.2 and any regulations adopted thereunder.

According to California Health and Safety Code Section 1319, practitioners are required to possess malpractice insurance as a condition of being on the medical staff of a health care facility. When practitioners submit their credentials to apply for membership to a health care facility, the credentialing committee will confirm the professional liability insurance coverage and the amount of coverage directly with the carrier. The credentialing committee may also verify individual practitioner's professional liability claims history.

Practitioners who fulfill requirements of Pathway A would possess malpractice insurance in order to apply for membership (active status) on the staff of a general acute care hospital. Once they receive the permit, they would apply for surgical privileges for the specific elective facial cosmetic surgical procedures at specific surgical settings.

Practitioners who fulfill the requirements of Pathway B would already possess malpractice insurance to maintain their membership on the staff of a general acute care hospital. Once they receive the permit, they would apply for surgical privileges for the specific elective facial cosmetic surgical procedures at specific surgical settings. It should be noted that some practitioners, who hold MD degrees, already possess surgical privileges for elective facial cosmetic procedures.

CONCLUSIONS

Our findings indicate that the additional permitted standards and credentialing process proposed in Senate Bill 438 would enable the OMSs to practice safely and competently. Our conclusion is based on a thorough review of OMS education, training, experience, required credentials to be submitted; and, a review of current practice that includes the procedures cited in the bill.

We found that OMSs have sufficient education, training and experience to perform elective facial cosmetic procedures. While there may be some variation in the offerings of the training programs, recent graduates of residency or postgraduate fellowship programs have completed comprehensive programs of study that provide them with a solid foundation to perform cosmetic procedures and the clinical skills to obtain documentation of their skills. Practitioners who are already providing elective facial cosmetic surgical services have proven their clinical competence to perform the procedures. Practitioners who fulfill the requirements in either pathway must submit credentials for medical staff membership to a credentialing committee which evaluates their fitness for active status.

We were cognizant of the fact that in order to be granted medical staff membership, a credentialing committee of a licensed general acute care hospital would conduct a thorough review of practitioner credentials. Here, OMSs would submit extensive credentials documenting their education, training, surgical privileges, and active status on the staff of a licensed general acute care hospital, to the hospital's credentialing

committee. In eight of the nine facilities that we surveyed, OMSs would be required to obtain surgical privileges for facial cosmetic procedures through the same privileging process as other surgeons--after obtaining additional education and training specific to the privilege requested. Documentation of malpractice insurance and professional liability claims history would be a required part of their application for medical staff membership.

We viewed the permitting process as similar to the privileging process at a licensed acute care hospital. Both involve a multidisciplinary committee to make the final check of an applicant's qualifications. Senate Bill 438 clearly specifies that a multidisciplinary credentialing committee comprised on a plastic surgeon; an otolaryngologist; and three board certified OMSs (one OMS must be a physician and surgeon) would be charged with reviewing qualifications of all applicants. Thus, only qualified OMSs would be authorized to obtain the permit.

It should be noted that the Dental Board of California would be required to solicit input and recommendations regarding members of the credentialing committee from a variety of sources including the Medical Board of California, the California Dental Association, CALAOMS, the California Medical Association, and the California Society of Plastic Surgeons.

Table 7 illustrates how Pathway A and Pathway B applicants would meet the permitted standards of the bill.

Table 7 – Permitted standards for safe and competent practice

Bill provision	Pathway A		Pathway B	
	Meets permitted standards	Not applicable	Meets permitted standards	Not applicable
1. 1638.1(c)(1) – Completion of OMS residency	X		X	
2. 1638.1(c)(2)(A)(i) – Board certification	X			X
3. 1638.1(c)(2)(B)(ii) – Program director's letter	X			X
4. 1638.1(c)(2)(A)(iii) – Operative reports	X		X	
5. 1638.1(c)(2)(B)(iv) – Surgical privileges	X			X
6. 1638.1(c)(2)(B)(i) – Privileges by medical staff		X	X	
7. 1638.1(c)(2)(B)(ii) – Operative reports		X	X	
8. 1638.1(c)(3) – Active status on staff	X		X	
9. 1638.1(h) – Malpractice insurance	X		X	

In conclusion, we found that the proposed permitting process provides for many checks and balances including reviews by hospital credentialing committees for surgical privileges, reviews by hospital committees for staff membership, and possession of malpractice insurance. The checks and balances ensure that only qualified OMSs would be authorized to obtain the permit.

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Appendix A – Rating scales

Frequency

For each task, consider how often you perform this relative to all other tasks you perform. Mark "0" if you do not perform this task in your job.

- 0 - NOT RELEVANT - This task is not performed in my job.
- 1 - RARELY – This task is one of the least frequently performed tasks in my job.
- 2 - SELDOM – This task is performed infrequently relative to other tasks that I perform in my job.
- 3 - OCCASIONALLY – This task is performed somewhat frequently and is about average relative to all other tasks that I perform in my job.
- 4 - OFTEN - This task is performed more frequently than most other tasks in my job.
- 5 - VERY OFTEN – This task is performed almost constantly and is one of the most frequently performed tasks in my job.



Appendix B – Task ratings

Item	Task	N	Mean Freq
I. ANESTHESIA			
T001	Administer local anesthesia.	86	4.83
T002	Administer anesthesia for conscious sedation.	85	3.88
T003	Administer anesthesia for deep sedation/general anesthesia.	85	4.72
T004	Manage anesthetic complications.	79	2.58
II. GENERAL SURGERY			
T005	Determine flap design.	72	4.00
T006	Develop problem list and diagnosis.	73	4.36
T007	Develop surgical treatment plan.	73	4.48
T008	Perform tissue harvesting for grafting.	76	3.37
T009	Provide postsurgical supportive care, e.g., hyperbaric oxygen therapy, antibiotic therapy.	75	3.67
III. DENTOALVEOLAR SURGERY			
T010	Manage odontogenic infections.	86	3.69
T011	Perform periodontal surgery.	73	2.26
T012	Perform endodontic surgery.	63	1.97
T013	Manage deformities and defects of the dentoalveolar complex.	86	3.91
T014	Manage impacted teeth.	85	4.84
T015	Perform routine extraction.	84	4.58
T016	Perform surgical extraction.	85	4.72
T017	Perform preprosthetic and reconstructive surgery on dentoalveolar complex.	85	4.29
T018	Place osseointegrated implants.	83	4.40
T019	Place zygoma implants.	48	2.35
T020	Place orthodontic anchors.	71	2.42
T021	Place grafts of soft and hard tissue.	86	4.02
T022	Place sinus grafts for placement of implants.	84	3.76
T023	Place dentoalveolar distractors.	59	2.17
T024	Perform vestibuloplasty.	76	2.11
IV. MAXILLOFACIAL PATHOLOGY			
T025	Perform extraoral incision and drainage of infections.	86	2.70
T026	Perform intraoral incision and drainage of infections.	86	3.36
T027	Marsupialize and/or decompress cysts that cannot be enucleated.	86	2.45
T028	Perform excision/resection of benign cysts or tumors.	86	3.31
T029	Reduce or remove maxillary exostosis.	85	3.36
T030	Reduce or remove mandibular exostosis.	85	3.46
T031	Manage bone diseases of the maxillofacial region.	85	2.98
T032	Perform excision/resection of malignant tumors.	63	1.98
T033	Perform excision of odontogenic and non-odontogenic lesions.	86	3.48
T034	Perform biopsies.	86	4.23
T035	Manage pathologic soft tissue tumors in maxillofacial region.	83	3.27
T036	Manage pathologic skeletal tumors in maxillofacial region.	82	2.99
T037	Manage tumors of the temporomandibular joint.	58	1.90
T038	Manage chronic facial pain.	67	2.36

Item	Task	N	Mean Freq
V. MAXILLOFACIAL TRAUMA			
T039	Perform surgical airway management and cervical spine control.	56	2.11
T040	Manage hemorrhage.	82	2.83
T041	Evaluate neurologic status.	82	2.89
T042	Reestablish anatomic zones of the maxillofacial region with proper orientation.	77	3.04
T043	Manage soft tissue injuries to oral/perioral, auricle, scalp, periorbital, perinasal, and/or facial regions.	84	2.94
T044	Manage fractured, luxated and/or exarticulated/avulsed teeth.	85	3.36
T045	Manage alveolar process injuries.	85	3.39
T046	Manage injuries to mandibular angle, body, ramus, and symphysis.	86	3.37
T047	Manage mandibular condyle injuries.	86	3.31
T048	Manage mandibular or mandibular condyle injuries with fixation and/or bone grafts.	85	3.11
T049	Manage maxillary injuries with fixation and/or bone grafts.	85	3.09
T050	Manage mandibular or maxillary fractures with fixation.	86	3.28
T051	Manage orbital injuries.	71	2.48
T052	Manage nasal bone injuries.	72	2.47
T053	Manage frontal sinus injuries.	60	2.13
T054	Manage naso-orbital-ethmoid complex injuries.	64	2.27
T055	Manage mandibular or maxillary alveolar fractures without manipulation.	85	2.99
T056	Manage traumatic injuries involving the facial and trigeminal nerves.	73	2.42
T057	Manage parotid and/or submandibular gland duct injuries.	67	2.10
T058	Manage zygomaxillary frontal complex fractures.	77	2.66
T059	Manage frontal fractures.	57	2.14
T060	Manage temporomandibular joint dislocation.	85	2.62
T061	Manage temporal articular eminence fracture	57	1.74
VI. MAXILLOFACIAL RECONSTRUCTION AND ESTHETICS			
T062	Manage defects of the mandible and associated soft tissues.	81	3.11
T063	Perform chin augmentation.	78	3.01
T064	Manage defects of the maxilla and associated soft tissues.	83	2.99
T065	Manage defects of the zygoma and associated soft tissues.	68	2.63
T066	Perform augmentation of zygoma.	65	2.28
T067	Manage defects of frontal bone and associated structures.	55	1.75
T068	Manage defects of the nasal, orbital and/or ethmoid region.	57	2.02
T069	Manage external ear deformities.	39	1.41
T070	Perform otoplasty.	30	1.33
T071	Manage orbital defects.	58	2.14
T072	Manage nasal defects and/or deformities.	57	2.23
T073	Perform septorhinoplasty/rhinoplasty.	45	2.33
T074	Perform cheiloplasty.	58	2.10
T075	Perform maxillofacial contouring.	61	2.21
T076	Perform rhytidectomy for cervicofacial soft tissue redundancy.	26	1.69
T077	Perform maxillofacial lipectomy.	42	2.14

Item	Task	N	Mean Freq
T078	Manage eyelid defects.	34	1.91
T079	Perform blepharoplasty.	33	1.97
T080	Perform forehead and/or brow lift.	31	1.84
T081	Perform resurfacing/rejuvenation of cutaneous facial tissue.	38	1.87
T082	Manage neurologic defects in the head and neck.	36	1.94
T083	Perform scar revision.	68	2.24
T084	Provide botulinum toxin therapy.	37	2.22
T085	Perform soft tissue augmentation procedures.	61	2.15
T086	Perform contouring of cervical soft tissue.	34	2.12
T087	Manage defects of the temporomandibular joint.	59	2.44
T088	Manage defects of the soft and hard palate.	75	2.29
VII. MAXILLOFACIAL SKELETAL DEFORMITIES			
T089	Correct mandibular prognathism/hyperplasia.	83	3.20
T090	Correct mandibular retrognathism/hypoplasia.	83	3.20
T091	Correct mandibular asymmetry.	81	3.11
T092	Correct maxillary hypoplasia/hyperplasia.	81	3.20
T093	Correct apertognathia.	79	3.22
T094	Correct midface hypoplasia/hyperplasia.	80	3.08
T095	Correct facial asymmetry.	81	3.15
T096	Correct facial hypoplasia.	78	3.09
T097	Correct zygomatic hypoplasia/hyperplasia.	73	2.56
VIII. CLEFT AND CRANIOFACIAL SURGERY			
T098	Correct primary cleft lip deformities.	29	1.52
T099	Correct primary cleft palate deformities.	38	1.79
T100	Correct congenital velopharyngeal incompetence.	25	1.52
T101	Correct congenital soft palate deformities.	39	1.62
T102	Correct residual cleft lip and/or nasal deformities requiring secondary management.	44	1.91
T103	Correct maxillary alveolar cleft deformities.	66	2.39
T104	Correct maxillary palatal cleft deformities.	55	2.15
T105	Correct residual maxillofacial skeletal deformities requiring secondary management.	64	2.52
T106	Correct craniofacial deformities through intracranial and non-intracranial approaches.	25	2.04
T107	Correct secondary craniosynostosis with intracranial approach.	8	1.50
T108	Correct orbital and/or naso-orbital deformities.	29	1.66
T109	Correct primary facial cleft deformity.	16	1.56
IX. TEMPOROMANDIBULAR JOINT DISEASE			
T110	Manage masticatory muscle disorders associated with the temporomandibular joint.	72	2.81
T111	Manage internal derangement of the temporomandibular joint.	70	2.83
T112	Manage degenerative joint disease associated with the temporomandibular joint.	69	2.81
T113	Manage arthritis associated with the temporomandibular joint.	68	2.74
T114	Manage mandibular dislocation.	84	2.62
T115	Manage temporomandibular ankylosis and restricted jaw motion.	68	2.51
T116	Manage condylar hyperplasia or hypoplasia.	66	2.39

Item	Task	N	Mean Freq
T117	Manage meniscus disorders of the temporomandibular joint.	65	2.74
T118	Place condylar prosthesis.	50	1.86
T119	Place temporal prosthesis.	43	1.84
T120	Place temporalis flap.	51	1.63