**McMaster Otolaryngology-Head and Neck Surgery**  
**Goals and Objectives for the Oral and Maxillofacial Surgery Rotation**  
**Resident Foundation Stage**

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**Overview**

During the Foundation Stage the resident will spend 1 block on the Oral and Maxillofacial service. The resident will gain experience in dealing with outpatients in the Surgeon’s private clinic and with inpatients on the wards, the operating room and in the emergency department of St. Catharines General Hospital.

Staff Surgeons: Dr. Lorenzo Vigna 75 Corporate Park Drive St. Catharines

Call:
The resident will be assigned to be on call with the Oral and Maxillofacial service. Call will be set according to PARO guidelines.

**Overall Objectives:**

*It is recognized that the resident may not be exposed to all elements of these objectives; however at the conclusion of the rotation the resident should demonstrate knowledge or competency in the following:*

The resident is expected to gain understanding and knowledge of the anatomy, physiology and pathophysiology of the oral cavity and the facial bones in particular the maxilla and the mandible. The resident will gain experience in the medical and surgical treatment of trauma and diseases of the maxilla, the mandible and the oral cavity.

**Specific Objectives:**

**Medical Expert**

(1.4) Apply knowledge of the clinical and biomedical sciences relevant to oral and maxillofacial

- **Anatomy** of the facial skeleton, buttresses, blood supply, dentition of the oral cavity and the associated soft tissue structures
- Growth and development of the facial skeleton from the stages of embryology to adult
- **Physiology of oral cavity** (sensory and motor function, taste)
- **Microbiology and antimicrobial properties of saliva**
- Basic immunology of the oral cavity (oral mucosa, saliva and salivary glands, gingival crevice)
- **Classification of dental occlusion and evaluate the harmonious arrangement of the jaws, teeth with respect of the facial appearance and function**
- Principles of facial bone healing

- **Odontogenic infections and their complications**
  - Apply anatomy of dentition, fascia and deep spaces of the neck
  - Describe pathophysiology, microbiology, and patterns of spread of odontogenic infections
  - Demonstrate knowledge for emergent airway management

- **Maxillofacial trauma**
  - Demonstrate knowledge for emergent airway management
  - Ensuring and confirming adequate breathing as it relates to Maxillofacial Trauma
  - Management of bleeding as it relates to Maxillofacial Trauma
  - Learning the different surgical approaches (open/closed reduction with internal/external fixation) to facial fractures in particular the maxilla and the mandible
  - Physiotherapy for the patients following injuries to the mandible, TMJ pathology
  - Complications of facial trauma and its management

- **Odontogenic Neoplasms**
  - Understand classification, epidemiology, pathogenesis, pathophysiology of odontogenic neoplasms
  - Identify relevant syndromic associations with odontogenic neoplasms
  - Classification:
    - Odontogenic Cysts
    - Non Odontogenic cysts
    - Odontogenic tumors (epithelial, mixed epithelial and mesenchymal, mesenchymal)
    - Malignant Odontogenic Tumors and others (Type I-IV)

  - Principles of Orthognathic surgery, LeFort and mandibular osteotomies, genioplasty, zygoma implants

  - Principle of distraction osteogenesis, indication of the application of a distracter

  - Temporomandibular joint disorders (TMJ)

  - Acute and chronic osteomyelitis of the maxilla and mandible

(2.2) Ability to elicit complete history, perform a physical exam and select appropriate investigations, and interpret their results for the purpose of diagnosis and management, disease prevention and health promotion of the following: (SF 3)
- **Odontogenic infections**, their complications including deep neck space infections
  - Identify need for immediate definitive airway management and options (awake fiberoptic nasal intubation, awake tracheostomy in Ludwig angina & airway obstruction)
  - Order relevant imaging, interpret and identify infection, abscess (panorex, dental x-rays, CT)
  - Select appropriate antibiotics, correct dehydration, and pain management
  - Understand surgical approaches to dental abscess and deep neck space infections

- Maxillofacial trauma
  - Initial trauma management (emergent airway recognition, bleeding, and ATLS guidelines)
  - Order relevant imaging, interpret and identify the fracture(s) (panorex, plain x-rays, CT)
  - Understand surgical approaches to midface skeleton and mandible fracture repair

- **Odontogenic Neoplasms**
  - Order relevant imaging and interpret with assistance (panorex, CT, MRI)
  - Review biopsy results with staff
  - Understand medical and surgical management

- Temporomandibular joint disorders
  - Order relevant imaging and interpret with assistance (panorex, MRI)
  - Elicit a differential diagnosis of true TMJ disorders
  - Elicit a differential diagnosis of myofascial pain dysfunction syndrome and understand their 4 stages of treatment
  - Elicit a differential diagnosis of non-articular conditions mimicking pain of myofascial pain dysfunction syndrome

(3.4) Perform the following procedures in a skillful, fluid, and safe manner with minimal assistance:

  - **Local anesthetic dental nerves blocks**
  - **Usage of basic dental instruments** (mirror, elevator, forceps, drill).
  - **Extraction of teeth**
  - **Suturing of gingival wound/socket**

(3.4) **Provide assistance and function as first or second assistance for the wide range of oral and maxillofacial surgical procedures** (SF 5.3.3)

  - Application of the arch bars, ivy loops and maxillomandibular fixation
  - Application of plating systems
  - Maxilla and mandible fractures reduction (closed/opened) with internal or external fixation
  - LeFort and mandibular osteotomies and genioplasties
  - Distraction osteogenesis with osteotomies and application of the distractor
  - Alveolar bone grafting
  - Reduction of condyle dislocation
Communicator

(2.1) Conduct a patient-centered interview, gathering all relevant biomedical and psychosocial information for any clinical presentation

Collaborator

(1.2) Consult as needed with other health care professionals, in particular dentists, orthodontists, dental assistants, dental hygienists, nurses, physicians, plastic surgeons, neurosurgeons, ophthalmologist and otolaryngology-head and neck surgeons

Health Advocate

(1.2) Awareness of the health and preventive measures related to maxilla and mandible trauma/fractures, TMJ, and oral cavity diseases.

(1.2) Recognize, counsel, advise and educate patients on dental hygiene

Scholar

(1.1) **Prepare, read and learn around clinical and surgical cases, understand the steps of the proposed treatment and participate appropriately by asking questions** (SF 1)

(1.2) Maintain a surgical procedure log, surgical evaluation forms (SF 1.7.1)

Bibliography suggestions
Abubaker A Omer: *Oral and Maxillofacial Surgery Secrets*. 2nd edition
Bagher Shahrokh C, Jo Chris: *Clinical Review of Oral and Maxillofacial Surgery*
Plastic Residency Teaching Seminars copies

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