

Dr. Daniel Buchbinder

DMD, MD

– Oral, Maxillofacial Surgery (OMFS) Division Keynote Speaker



Dr. Daniel Buchbinder is a graduate of University of Montreal School of Dental Medicine (DMD) and the Mount Sinai School of Medicine (MD). He received his certificate in Oral, Maxillofacial Surgery from the Mount Sinai School of Medicine and is a Diplomate of the American Board of Oral, Maxillofacial surgery. Dr. Buchbinder is the former chairman of the department of Dentistry and Oral, Maxillofacial Surgery at Mount Sinai Medical Center. He is currently Professor and chief of the division of Maxillofacial Surgery, Department of Otolaryngology- Head and Neck Surgery at Beth Israel Medical Center, New York, N.Y. and Continuum Cancer Centers of New York where he is also the director of the post graduate maxillofacial surgery training program. Dr. Buchbinder has published over 70 peer reviewed articles and has lectured extensively on cranio-maxillofacial trauma management, reconstruction and the use of osseointegration. He is a member of the multidisciplinary team at the Institute for Head and Neck & Thyroid Cancer and serves on the board of directors and the scientific advisory board for the Thyroid & Head and Neck Cancer (THANC) Foundation. Dr. Buchbinder also serves as chairman of the mandible expert group of the AO technical commission as well as the board of trustees of the AO ASIF foundation, a non-profit organization based on a network of surgeons who are committed to the study, practice, and teaching of AO principles and their advancement in the field of trauma and musculoskeletal surgery.

Lecture Topic 1.

Computer Aided Planning in Reconstructive Cranio-maxillofacial Surgery

The combination of Medical Imaging and Rapid Prototyping is a rapidly expanding field with a large application potential in Cranio-maxillofacial reconstructive surgery. Typical applications include the making of three-dimensional models for treatment planning, the production of custom designed prostheses and the replication of segmental anatomical objects to guide the surgeon's reconstructive efforts. When 3D visualisation is combined with a 3D surgery simulation and intra-operative navigation it becomes a powerful tool for precise and accurate surgical planning and execution of the treatment plan. Using intuitive, easy to follow steps, the surgeon can evaluate the patient's anatomy, perform 3D cephalometric measurements, segmentation and mirroring, simulate osteotomies and distraction surgeries in 3D. Furthermore, Visualisation of the surgical plan is a valuable tool to enhance communication between the surgeon and the patient, demonstrating where the bone cuts will be performed and how the segments will be repositioned during surgery. Lastly, based on this plan, surgical cutting guides and "splints" can be produced using RP technologies for an accurate transfer to the surgery.

This presentation will introduce the use of computer assisted treatment planning and intra-operative navigation in Craniomaxillofacial reconstructive surgery using clinical cases to illustrate the versatility of this technique.

SCIENTIFIC PROGRAMME - KEYNOTE SPEAKERS

Lecture Topic 2.

Orbital Trauma and Reconstruction

The bony orbits are complex structures of the maxillofacial skeleton whose function is the protection of the globes from direct trauma. The zygomatic bone, maxilla, frontal bone, ethmoid bone, sphenoid bone, lacrimal bone, and palatine bone contribute to the structure of the orbital walls. Disruption of these thin walls due to trauma or extirpative procedures will result in loss of support of the globe and peri-orbita. Enophthalmos and dystopia with the resulting diplopia are the most ocular common complications associated with disruption of the orbital walls. Ocular motility disorders due to entrapment of the extra-ocular muscles will also lead to visual disturbances. This lecture will review the management of orbital complex fractures and orbital reconstruction of acquired defects of the orbital walls in a systematic, step wise fashion, starting with the physical exam and radiographic evaluation using computed tomography (CT) and multi-planar reconstructions. The orbital anatomy, therapeutic principles, surgical approaches, and selection of restorative materials such as titanium mesh in combination with porous tetrafluoroethylene (PTFE) implants to manage the orbital floor defects will be outlined. The use of computer assisted planning using mirroring techniques and virtual CT data will be introduced. When the Naso-Orbito-Ethmoid complex is also involved in the injury, the goal of treatment is the restoration of the projection of the nasal bones, medial canthal attachment and inter-canthal distance. Furthermore the lacrimal apparatus needs to be evaluated and treated to prevent post operative complications such as epiphora. The management of treatment related complications will be reviewed. Finally, clinical recommendations and guidelines for the repair and reconstruction of orbital defects will be proposed.

Lecture Topic 3.

Contemporary Management of the Cleft Lip/Palate Deformity

This presentation will describe the surgical procedures most commonly utilized for the repair of cleft lip and palate (CL/P) deformities. The epidemiology, genetic basis and embryology of CL/P will be reviewed. The work-up and multidisciplinary approach to the care of the CL/P patient will be discussed. Simple, step by step surgical techniques used for the primary repair of unilateral and bilateral cleft lip will be demonstrated. The different revision techniques for the repair of residual deformities such as whistle tip, collumella (in the bilateral cleft) and lower cartilaginous nasal skeleton will also be demonstrated. Similarly, the different palatoplasty techniques both for the primary repair as well as revisions for residual oro-nasal fistulae will be discussed. The timing and techniques for the repair of the alveolar cleft will be reviewed.



Lim K Cheung BDS, PhD, FRACDS(OMS), CDSHK(OMS)
Hong Kong, China

Prof. Cheung is the Chair Professor in Oral and Maxillofacial Surgery and Associate Dean (Research and Discovery) at the Faculty of Dentistry, The University of Hong Kong. Prof. Cheung has actively contributed to the education of Oral and Maxillofacial Surgery in mainland China and Asian countries for many years. His main research interests are distraction osteogenesis, reconstructive surgery, and maxillofacial implantology.

Distraction or Orthognathic Surgery – Which is better for Cleft Lip and Palate Patients?

Maxillary hypoplasia leading to a sunken midface is a common developmental problem in cleft lip and palate (CLP) patients. These deformities were corrected by orthognathic surgery traditionally from 1970 – 90s. However, this type of immediate transposition of the cleft maxilla is technically difficult due to severe deformity demanding large surgical movement and the tension from the palatal scar contributing to the surgical relapse. Distraction osteogenesis, the process of generating new bone through gradual traction between two surgically separated segments fixed to a mechanical device, has become increasingly popular. It has opened new perspective for the treatment of various skeletal anomalies, particularly for the cleft lip and palate patients.

We are currently conducting a randomized controlled clinical trial comparing distraction osteogenesis with the use of internal distractors versus orthognathic surgery with mini-plate fixation on adult CLP patients with moderate advancement of the maxilla at Le Fort I level. The aims are to define the morbidities, surgical relapse, soft tissue changes, velopharyngeal function changes, speech outcome and psychological changes between the two groups. The latest results of this trial will be presented and recommendation on which technique is better for CLP patients will be made.