Incorporating New Technologies and Advances to Orthognathic Surgery

Three-Dimensional diagnosis and treatment has been made possible through new technologies such as CBCTs and scanners. Orthognathic surgery can greatly benefit from the use of these technologies, which can be used in conjunction to new surgical approaches such as Surgery First.

This lecture will provide insight into the use of CBCTs and intraoral scanners for the treatment of asymmetric patients using virtual 3D planning and computer-manufactured surgical splints with the “Surgery First Approach”. It is now possible to fully plan a combined orthognathic surgery-orthodontics approach virtually in all 3 dimensions. Orthodontic appliances can be inserted based on this virtual plan with the possibility of expediting the postsurgical phase.

Also, this lecture will describe how virtual planning and CAD/CAM fabrication of alloplasts can also be used in conjunction with TADs to minimize the extent of orthognathic surgery in asymmetric patients. Finally this lecture will discuss different alternatives that could be used to accelerate the presurgical orthodontic phase if the surgery first approach is not feasible.

This lecture will:

1. Discuss CAD/CAM technology as it applies to orthognathic surgery planning and execution
2. Discuss how the “Surgery first approach” in orthognathic surgery can be used in conjunction to CAD/CAM technology in patients with dentofacial asymmetries to maximize accuracy and efficiency of treatment
3. Discuss treatment alternatives to enhance the rate of tooth movement in the presurgical phase when the “Surgery first approach” cannot be conducted.