Virtual treatment planning in orthognathic surgery: Where are we now?

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By incorporating three-dimensional (3D) imaging and computer-aided design and manufacturing techniques, 3D computer-assisted technology has been applied widely to provide accurate guidance for assessment and treatment planning in clinical practice. This technology has recently been used in orthognathic surgery to improve surgical planning and outcome. The modality will gradually become popular. This presentation reviews the literature concerning the use of computer-assisted techniques in orthognathic surgery including surgical planning, simulation, intra-operative translation of the virtual surgery and postoperative evaluation. A Medline, PubMed and Science Direct search was performed to find relevant articles with regard to 3D computer-assisted orthognathic surgery in the past 10 years. A total of 381 articles were revealed, out of which 78 were publications addressed the topic of this study. The purpose of this presentation is to present an overview of the state-of-art methods for 3D computer-assisted technology in orthognathic surgery. From this presentation we can conclude that the use of computer-assisted technique in orthognathic surgery provides the benefit of optimal functional and aesthetic results, patient satisfaction, precise translation of the treatment plan and facilitating intra-operative manipulation.

Biography
Ahmad Ali Alshadwi is a Graduate from King Saud University College of Dentistry and joined as the Oral Surgery Staff in King Faisal Hospital. He has finished an OMFS Internship in Boston Medical Centre and then joined Boston University OMFS Residency. After completing his internship he has joined King Faisal Specialist Hospital and Research Centre in Riyadh, KSA as an Associate Consultant. He is candidate for the American Board of Oral & Maxillofacial Surgery, in addition to that he has several publications and authored few book chapters. He maintains practice focused on Orthognathic and TMJ surgeries in addition to facial cosmetics and trigeminal nerve repair procedures.

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