AO Orlando preview: The sinus floor bone graft

By Ole Jensen, DDS, MS

Twenty years after the watershed Sinus Consensus Conference of 1996, co-chaired by Leonard Shulman, Michael Bloback, Vincent Lacorno and myself, we editorialized in the "International Journal of Oral & Maxillofacial Implants," highlighting five areas of significant change that have occurred since that time. These five areas will be the topic of a session, titled "Sinus Consensus Update Session," that I will moderate on March 17 as part of the Academy of Osseointegration 2017 Annual Meeting.

The state of the science of the sinus floor bone graft is not settled. There remains significant controversy, and therefore ongoing innovation, as it relates to augmentation procedures to enhance osseointegration. The goal of this course will be to present key topics that have improved our understanding of when and how and if to do the sinus floor procedure.

One could say that the profession does not yet know what to do about aeration of the posterior maxilla with regard to tooth replacement, which is why every specialty must contribute to making treatment planning a success. Here are five key developments that have informed our thinking:

- Increased reports of combined alveolar and sinus-floor grafting suggest that orthoalveolar form, that is, the formation of ideal shape and size of the alveolus for emergence profile restoration is favored by clinicians even in the back of the mouth. Combined alveolar procedures done in conjunction with the addition of bone to the sinus floor gains bone mass for osseointegration as well as helping to establish long term gingival health.
- Technical advances since 1996 in performing the sinus graft now involve using an alveolar approach instead of a lateral approach. Transcrestal osteotomies are used vertically to intrude the sinus floor, sometimes simultaneously alveolar splitting to gain alveolar width.
- For the fully edentulous setting, with the advent of the "all-on-4" method, sinus grafting is generally avoided even in the severely deficient patient. Implant angulation circumvents the sinus by gaining apical anchorage into pyriform, nasal crest, pterygoid or malar bone structures, thus avoiding the need for sinus floor bone augmentation, a significant change in treatment prerogative since 1996.
- Almost iconoclastic is the resurgence of the use of short implants, even ultra-short implants that avoid sinus penetration or are only minimally invasive, having been shown in three-year studies to just as effective as sinus grafted implant sites using longer implants. The overarching theme of the Symposium is that ongoing clinical and basic science developments continue to strike a balance between biological efficacy and simplicity of treatment.
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Dr. Jensen on ‘understanding when, how and if’

Research: Implant treatment plan should be adapted for smokers

By Dental Tribune International

A Chinese study comparing implant stability and peri-implant tissue response in heavy smokers and non-smokers has found that smoking did not affect the overall success of implant surgery, as all implants achieved osseointegration without complications at least by the end of the 12th week after placement. However, smoking did cause the bone around the implants to heal more slowly, thus, implants began to osseointegrate considerably later than in the non-smoking group.

Research has demonstrated that smoking can negatively affect implant and bone integration. In order to improve treatment outcomes and avoid implant failure, surgeons need to have a precise understanding of how the habit will affect the healing process.

In the current study, 45 ITI (Stru- mann) implants were placed in the partially edentulous posterior mandibles of 32 male patients, including 16 who were heavy smokers and 16 who did not smoke at all. Implant stability and peri-implant tissue response were assessed at three, four, six, eight and 12 months, respectively.

Research shows how smoking affects healing after dental implant treatment.

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