

SINUS AUGMENTATION

Dental implants require a sufficient amount of bone and soft tissue for success and longevity. There may be deficient areas of the maxilla requiring bone and soft tissue grafting before implants can be placed. If bone levels are inadequate, a sinus augmentation is required prior to implant placement.

Due to age or a natural lack of bone quantity and quality, the posterior maxilla tends to be a complex location for implants. The proximity to the maxillary sinus can cause additional problems. Pneumatization of the para-nasal sinuses occurs as we grow older, causing the sinuses to enlarge, thereby reducing the alveolar bone. In addition, if an upper molar is lost, the edge of the sinus cavity can move and “intrude” on the jawbone, further reducing the area suitable for implants. Bone resorption caused by tooth loss can make the area moderately to severely atrophic.

A **sinus augmentation** or sinus “lift” is a method to help prepare the area for successful implant placement by increasing alveolar bone height. This procedure consists of cutting a small circle out of the maxillary sinus wall and “pushing” the bone up to “lift” the membrane off the sinus floor. Thus, room is created for the surgeon to place bone grafting material into the sinus which allows new bone to form.

A mixture of autogenous bone and allo/xenograft provides the ideal substrate for minimizing resorption and maximizing healing as well as consolidation of the graft. Autogenous bone can be harvested from various sites and range from bone shavings for minor requirements, to retrieving bone from the tibia for larger cases. The harvested bone is most commonly mixed with a xenograft such as Bio-oss at a 50:50 ratio and subsequently placed in the sinus. A collagen membrane is placed over the opening and the area is then closed. The grafted area takes from four to six months to heal before implants can be placed.

Most patients can expect some swelling and discomfort after surgery, which can be well controlled with medication. The end result, however, is an improved survival rate and long-lasting implants that will improve both the aesthetic aspect and functionality of the patient’s dentition.