

## SINUS GRAFTING

The maxillary sinus is a hollow chamber which lies above the upper molars and premolars. It has no important biologic function and serves merely as one of many chambers in which air circulates and is humidified. The maxillary sinus increases in size and volume as one ages. When the teeth beneath it are lost, the sinus may increase even further in size, occupying most of the area where the teeth had been. Often, there is not enough bone remaining in these areas in order to place dental implants.

For centuries, missing back teeth were replaced with removable partial dentures. Since the late 1960's, the literature has shown reports of successful grafts into the sinus areas in order to increase bone volume. Today, this procedure is widely used as a means to support dental implants and *avoid removable dentures*. Current research shows a remarkable implant survival rate of over 92% in these grafted sinus areas - the same success rate as seen in non-grafted sites.

There are two different methods by which grafts are placed into the maxillary sinus:

### **INFERIOR SINUS LIFT**

If the area to be grafted is relatively small and the anatomy of the sinus is favorable, a minimally invasive localized procedure is performed in which the graft material is advanced into the sinus by an instrument through a small opening made in the gums and bone, in the site of the missing tooth. This is called an Inferior Sinus Lift.

### **LATERAL WINDOW SINUS LIFT**

For larger areas, a Lateral Window Sinus Lift procedure can be performed. In this procedure, a "window" is made through the bone on the side of the sinus in the area above the missing teeth and the graft material is placed directly into the sinus space.

These two predictable procedures provide an alternative to dentures for the replacement of the back teeth and are performed by us on a routine basis. The following pages show a series of illustrations of the procedures.

## INFERIOR SINUS LIFT



**FIG 1:**

Side view of the maxillary sinus where one molar is missing and there is too little bone to support an implant. The sinus has expanded into the space formerly occupied by the roots of the missing tooth.



**FIG 2:**

Close up view shows the drill stopping just beneath the floor of the maxillary sinus. A thin section of bone remains and the soft tissue sinus membrane lies directly over the bone.



**FIG 3:**

A small amount of graft material is advanced into the opening with an instrument.



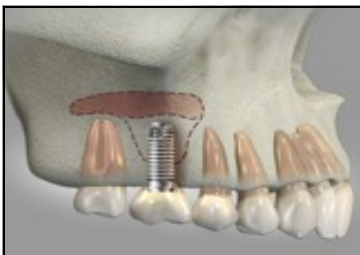
**FIG 4:**

The instrument advances the graft material along the remaining thin bone of the sinus floor, lifting the soft tissue sinus membrane and allowing the graft to enter safely.



**FIG 5:**

A sufficient volume of graft material is advanced in order to create an area for implant placement.

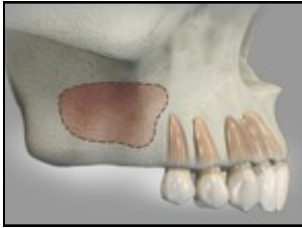


**FIG 6:**

The implant is placed into the site, often at the same time as the graft procedure, otherwise, after a period of bone maturation.

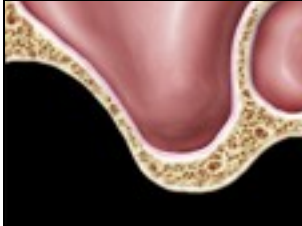
## LATERAL WINDOW

## SINUS LIFT



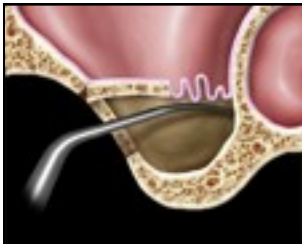
**FIG 1:**

Side view of the upper right jaw with molars missing and minimal bone remaining beneath the maxillary sinus. The sinus has expanded into the space formerly occupied by the roots of the missing teeth.



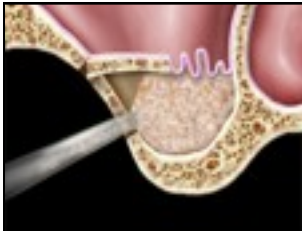
**FIG 2:**

Cross sectional view of the sinus with minimal bone beneath it.



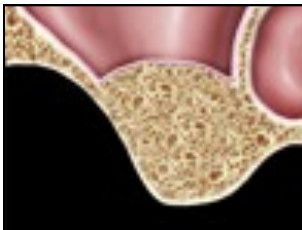
**FIG 3:**

A lateral window has been made in the wall of the sinus, on the cheek side. The small section of outer bone, along with the soft tissue membrane which lines the sinus, is being gently elevated by an instrument.



**FIG 4:**

The sinus membrane has been elevated and the new bone graft material is placed into the space. A sufficient volume of graft material is advanced in order to create an area for implant placement.



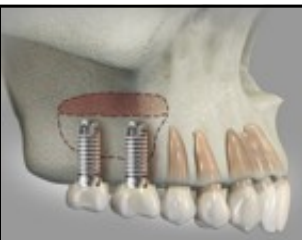
**FIG 5:**

After approximately 6 months of maturation, the grafted bone has solidified and become one with the original bone, leaving a sufficient volume of bone for implant placement.



**FIG 6:**

The implant/s are placed into the newly generated bone.



**FIG 7:**

After the bone has integrated with the implants, new crowns replace the missing back teeth.



first in restorative, aesthetic & implant dentistry  
Christopher Proto, D.D.S.

631.669.2330

## SINUS GRAFTING INFORMED CONSENT

- I have been informed and I understand the purpose and nature of the sinus grafting procedure. I understand what is necessary to accomplish the placement of the graft material under the sinus. I have read and understand the previous 3 pages.
- My doctor has carefully examined my mouth. Alternatives to this treatment have been explained. I have tried or considered these methods, but I desire a sinus graft to provide enough bone volume for dental implant/s.
- I have further been informed of the possible risks and complications involved with surgery, drugs and anesthesia. Such complications include pain, swelling, infection and discoloration. Numbness of the lip, tongue, cheek or teeth may occur. The exact duration may not be determinable and may be irreversible. Also possible are inflammation of a vein, injury to teeth present, bone fractures, sinus penetration, delayed healing. Allergic reactions to drugs or medications used, etc.
- I understand that if nothing is done, any of the following could occur: continued expansion of the sinus into space formerly occupied by the roots of the missing teeth, bone disease, loss of bone, gum tissue inflammation, infection, sensitivity, looseness of adjacent teeth, followed by necessity of extraction. Also possible are temporomandibular joint (jaw) problems, headaches, referred pain to the back of the neck and facial muscles, and tired muscles when chewing.
- My doctor has explained that there is no method of accurately predict the gum and bone healing capabilities in each patient following the sinus graft.
- It has been explained that in some instances sinus grafts fail and must be removed. I have been informed and understand that the practice of dentistry is not an exact science; no guarantees or assurances as to the outcome of results of treatment or surgery can be made.
- I understand that excessive smoking, alcohol or sugar may effect the gum and bone healing and may limit the success of the graft. I agree to follow my doctor's home care instructions. I agree not to report to my doctor for regular examinations as instructed.
- To my knowledge I have given an accurate report of my physical and mental health history. I have also reported any prior allergic or unusual reactions to drugs, food, insect bites, anesthetics, pollens, dust, blood or body diseases, gum or skin reactions, abnormal bleeding or any other conditions related to my health.
- I consent to photography, filming, recording and x-rays of the procedure to be performed for the advancement of implant dentistry, provided my identity is not revealed.
- I request and authorize medical/dental services for me, including sinus grafts, implants and other surgery. I fully understand that during, and following the contemplated procedure, surgery or treatment, conditions may become apparent which warrant, in the judgment of the doctor, additional or alternative treatment pertinent to the success of comprehensive treatment. I also approve any modifications in design, material, or care, if it is felt this is for my best interest.

\_\_\_\_\_  
Doctor, Signature & Date

\_\_\_\_\_  
Patient, Signature & Date

\_\_\_\_\_  
Witness, Signature & Date