

BONE QUALITY AND QUANTITY IN THE MAXILLARY SINUS GRAFTED WITH XENOGRAFT OR SYNTHETIC BONE SUBSTITUTE:

A RADIOGRAPHIC AND HISTOMORPHOMETRIC RANDOMIZED CONTROLLED CLINICAL STUDY



Presented by Dr. Rachad Kudsi
Dr. Mohannad Al-Sabbagh, Dr. Dolph Dawson, Dr. Ahmad Kutkut, Dr. Octavio Gonzalez, University of Kentucky



INTRODUCTION

In addition, extraction of posterior maxillary teeth causes pneumatization of the maxillary sinus in relation to other fixed landmarks such as the teeth. These anatomic sinus limitations and alveolar bone deficiencies are the main challenges for dental implant placement. In an attempt to reduce these limitations and improve implant success, different bone substitutes have been used by clinicians to augment bone in pneumatized maxillary sinuses.

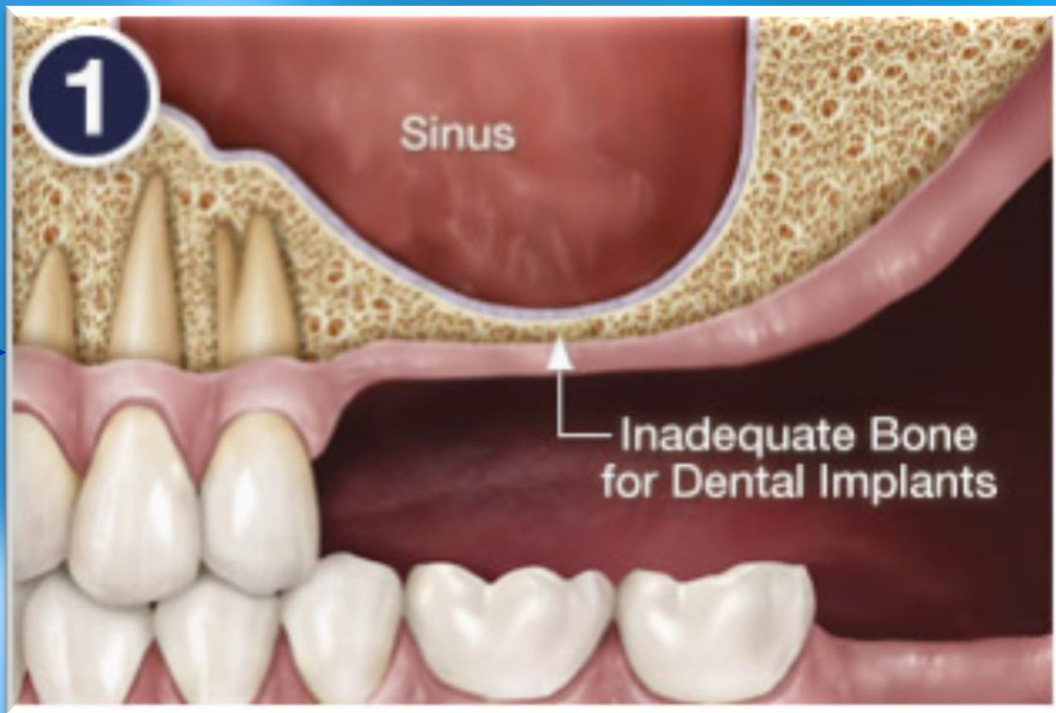
To our knowledge, there is no reported clinical studies on the use of silica- calcium phosphate composite SCPC material to graft a pneumatized maxillary sinus. This aim of this current study is to compare SCPC to commonly used xenograft (Bio-Oss®) material in an augmented maxillary sinus.

AIMS

- 1- Compare the vital bone formation of maxillary sinus grafted with xenograft vs synthetic bone materials using histomorphometric analysis.
- 2- Compare the maxillary dimension of sinuses grafted with xenograft vs synthetic material using limited view Cone Beam Computed Tomography (CBCT).
- 3- Assess the amount of non-vital bone in maxillary sinuses grafted with either xenograft or synthetic bone.

VISIT 1

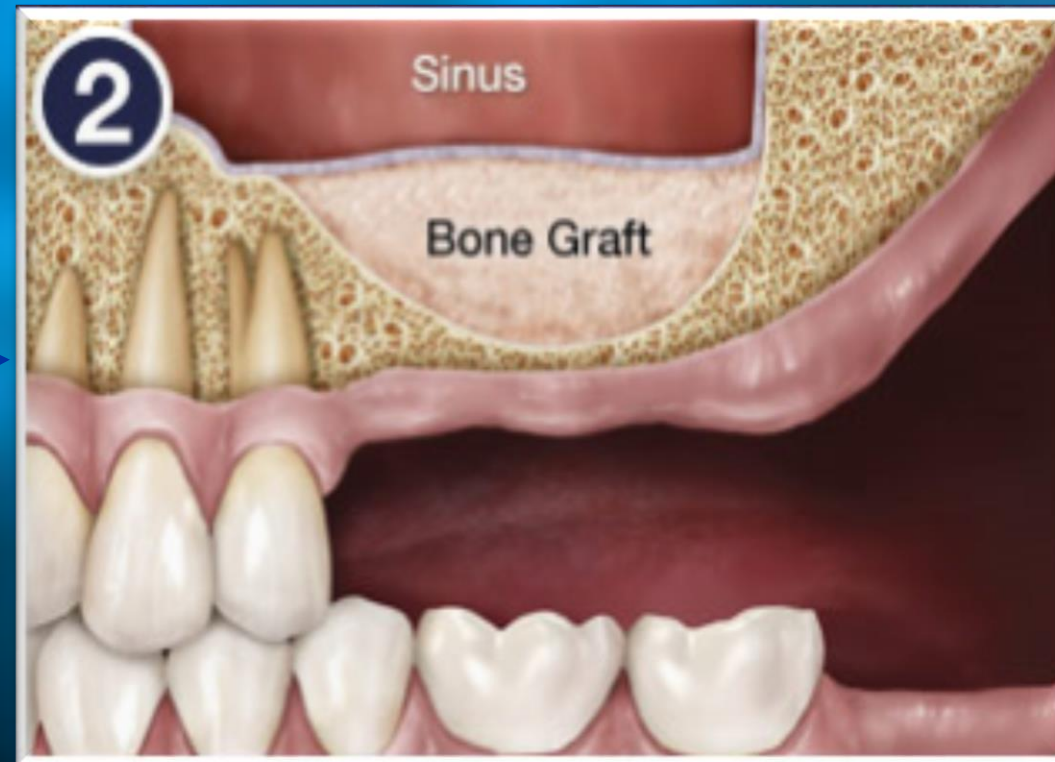
1. Read and sign consent
2. Oral tissue exam
3. Impression and 1st CBCT



VISIT 2

Lateral Window Sinus Augmentation Surgery (Sinus lift)

2nd CBCT



VISIT 3

Return 2 weeks later to evaluate healing and remove sutures

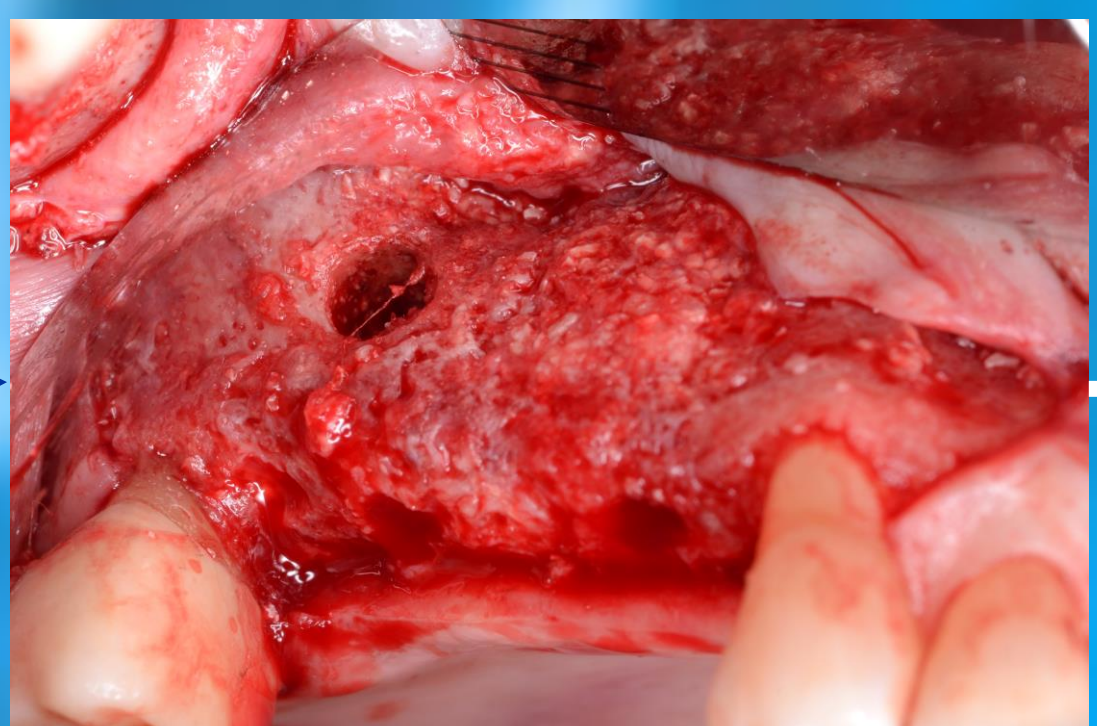
VISIT 4

Return 21 weeks (5 months) after initial surgery for 3rd CBCT

VISIT 5

Implant Placement Surgery & Collecting of Bone Core Samples

5.5 months after 1st surgery



VISIT 6

Return 2 weeks after implant placement to evaluate soft tissue healing

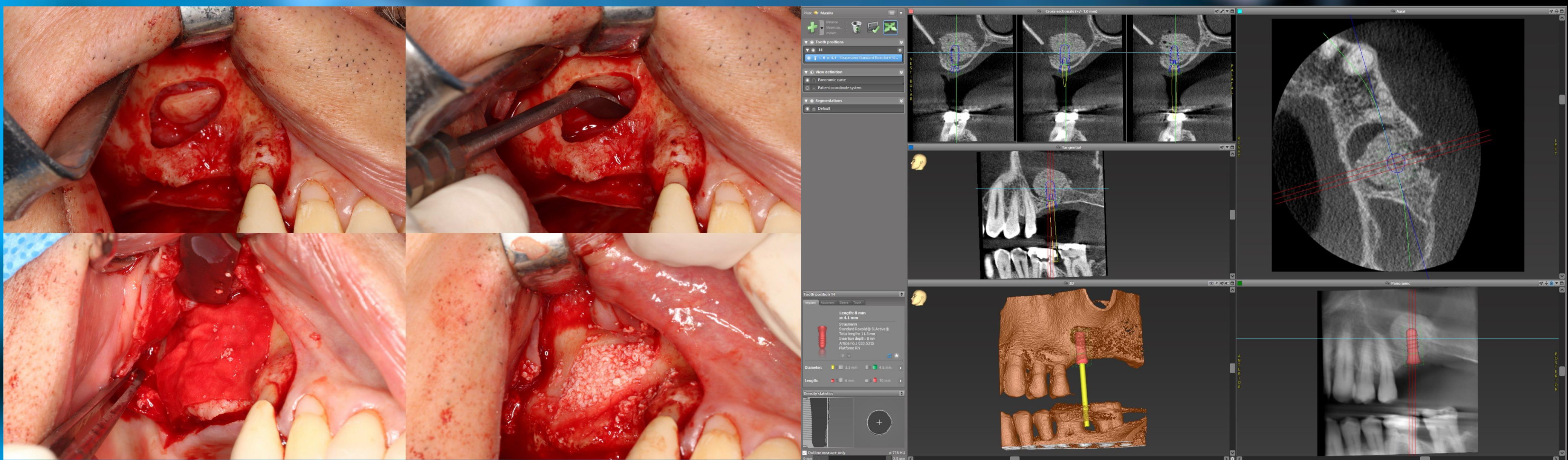


Figure 1. Sinus lift

Figure 2. Radiographic analysis2

