

BMI BIOMEDICAL MODELING INC.
CONE-BEAM CT SCANNING GUIDELINES for BIODENTAL MODELS

Biomedical Modeling Inc. uses advanced computer techniques to create three-dimensional polymer BioDental Models which physically replicate the anatomy captured on a Cone-Beam CT scan (CBCT). BMI BioDental Models are powerful tools for planning and placing dental implants. Follow these guidelines to help ensure that your data will be of the high quality required for your patient.

First Scan: First scan the **Radiographic Scanning Guide** (denture replica or bite registration with gutta percha markers) **seated on a stone or plaster cast**. You may support the guide and cast in a styrofoam cup. For NewTom 3G, support it on a plastic container filled with water.

Second Scan: Rinse the guide and have the patient place it in his/her mouth. Make sure the guide is properly seated on the patient's gums or teeth.

Note: If a scanning guide is not available, please use a plastic impression tray or a soft retractor provided by BMI to hold tongue and cheeks away from teeth and gums. A wax spacer may be used to separate upper and lower teeth if no retractor is available).

1. Metal Artifacts: Remove jewelry, removable dentures, etc. and use any metal artifact reduction techniques available on your scanner.
2. Patient Orientation: Align the **occlusal plane** with the axial plane. If a complete maxillofacial scan is required, align axial plane with the maxillary occlusal plane.
3. Patient Immobilization: Any movement of the patient during the scan will distort the Biomodel. Pillows and tape may be used to support and immobilize the patient's head comfortably. **Patient motion will necessitate repeating the scan.**
4. Scout View: Take a scout view to make entire region of interest is included with at least a 5 mm margin.
5. Spatial Resolution: For iCAT scanners, acquire data at High resolution setting (0.4mm voxels) and save data in DICOM 3 Multi-File format. For NewTom scanners, send Secondary reconstruction at 0.4 mm.
6. Media Format: **DICOM** data of **BOTH** scans can be sent on CD or by FTP. CDs should be labeled clearly with the patient name, scan date, physician name and telephone, make and model of the CBCT machine, and any other pertinent information. For FTP (internet data transfer) call us to set up a secure account for you.

The staff of Biomedical Modeling, Inc. thanks you for your attention to these guidelines. Please feel free to call Khaled at: **1-888-246-6633 (1-888-BIOMODEL)**.

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