

# Procedure & Instructions

## Procedure at a Glance

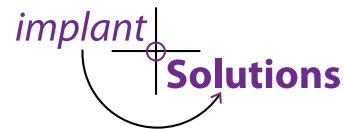
1. The Doctor takes an accurate impression of both arches and sends them to Implant Solutions. The casts are articulated and barium sulfate teeth are positioned in the proposed implant sites.
2. A scanning appliance is created by Implant Solutions and returned to the Doctor. The scanning appliance is checked by the Doctor for proper fit. Patient is sent for CT scan.
3. After the CT scan, the information is loaded into coDiagnostiX® and the implants are positioned in the CT image. This information along with the scanning appliances are returned to the ordering Doctor.
4. The finished surgical appliance is completed by Implant Solutions and returned to the Doctor. After emersion disinfection, the surgical appliance is positioned and drilling protocol for your specific implant system is ready to be completed. Depth of drilling is determined by the Doctor at time of surgery and is not set in the surgical appliance.

## Instructions

### Please read instructions thoroughly

When Ct scan is complete, please return scanning appliance to:

Implant Solutions  
1000 Corporate Drive  
P.O. Box 770  
Marshfield, WI 54449



## Three Steps to Taking CT Scan

### Step 1: Patient Preparation (Dentist)

1. The patient must wear their scan template during the CT Scan.
2. Jaws are separated with cotton rolls, patient lightly bites on cotton rolls.
3. All metal parts which are not fixed have to be removed (partial dentures).
4. If there are upper and lower scanning appliance, they must be scanned separately.

### Step 2: Patient Positioning

*Note: The position of the patient, with the appliance in place, is critical to the success of the CT scan. Please make sure the (3) Titanium pins, located on the scanning appliance, are visible in the scan.*

### Patient Sitting for CT Scan



Figure A Upper scanning appliance



*\*Note: Horizontal position of flat plate on the scanning appliance*

Lower scanning appliance



- The patient scanning appliance should be positioned as shown in figure A.
- A gantry angle of 0° is recommended, so the scan plane lies parallel to the occlusion plane.
- During the CT scan, the patient wears the scanning appliance. After the CT scan is completed, check to ensure the titanium pins are completely visible in the CT scan.

## Patient Lying Down for CT Scan

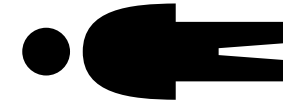
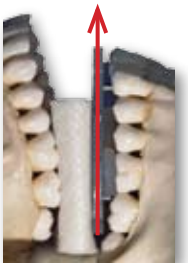


Figure B Upper scanning appliance



*\*Note: Perpendicular position of flat plate on the scanning appliance*

Lower scanning appliance



- The patient scanning appliance should be positioned as shown in figure B.
- A gantry angle of 0° is recommended, so the scan plane lies perpendicular to the floor.
- During the CT scan, the patient wears the scan appliance. After the CT is completed check to ensure the titanium pins are completely visible in the CT scan.

### Step 3: Scanning

#### Important Scan Parameters

- To achieve the best quality for the image reconstruction, it is recommended to choose a gantry angle of 0°.
- To avoid artifacts around the titanium pins, have the patient bite lightly on cotton rolls.
- Once you have chosen the reconstruction parameters, do NOT change them anymore (constant value for X and Y axis).
- High resolution bone algorithm:
  - "Inner Ear"
  - "Bone"
  - "High"
  - No "EDGE"!
  - Siemens f.e. "AK 97"
  - Elscint f.e. "Ultra High"
  - ...
- Parameters for a complete data set when using the dynamic mode:
  - Slices: 1mm to 1,5 mm
  - Feed: 1mm to 1,5 mm
- When using the spiral mode, a reconstruction to 1 mm slices is recommended.
- KV: approx. 110 to 130
- mA: approx. 20 to 120

#### Storage of the CT Scans

- For the dental implant planning with coDiagnostiX®, only axial slices are needed.
- Please store the image data set in the DICOM III format **uncompressed** on CD-ROM.
- For the planning with coDiagnostiX®, only the image data are needed. Please do not save the raw data.

Work Step	Completed
<b>1. Question the patient to see if they are wearing the scanning appliance.</b> <ul style="list-style-type: none"> <li>• Is the patient wearing a template and biting lightly on cotton rolls to separate jaws?</li> </ul>	<input type="checkbox"/>
<b>2. Checking the scan template:</b> <ul style="list-style-type: none"> <li>• Is the scanning template positioned correctly?</li> <li>• Make sure the scanning template is not dislodged when patient is biting on cotton.</li> </ul>	<input type="checkbox"/>
<b>3. Regulating the gantry angle:</b> <ul style="list-style-type: none"> <li>• Gantry angle: 0°</li> <li>• ATTENTION: Set a gantry angle of 0° if the patient cannot move the occlusion parallel to the scan plane. This will be calculated by coDiagnostiX®β afterwards!</li> </ul>	<input type="checkbox"/>
<b>4. Slice distance:</b> <ul style="list-style-type: none"> <li>• Scan from orbital to point of chin.</li> <li>• 1 mm or less</li> </ul>	<input type="checkbox"/>
<b>5. Checking CT Scan:</b> <ul style="list-style-type: none"> <li>• All 3 titanium pins must be scanned completely!</li> </ul>	<input type="checkbox"/>
<b>6. Instruct the patient:</b> <ul style="list-style-type: none"> <li>• Do not move, do not swallow, do not breathe.</li> </ul>	<input type="checkbox"/>
<b>7. Data export to CD:</b> <ul style="list-style-type: none"> <li>• DICOM III Format</li> <li>• A separate viewer is not necessary</li> </ul>	<input type="checkbox"/>

Return CT information and scanning appliance to Dentist, he/she will forward information to Implant Solutions.



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 P.O. Box 770  
 Marshfield, WI 54449  
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 (800) 995-0626  
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