

# Computer Tomography manual for scanning patient's bone tissue.

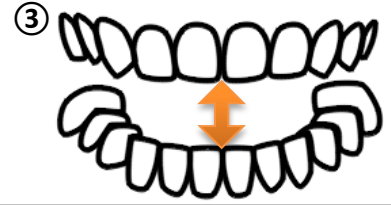
In order to create an accurate patient-specific implant and or an anatomical model for you, it is important to start with a fundamental basis. Take, read and apply the following recommendation steps with care.

## 1 Patient preparation

The patient is secured so that the scannable region will not move during the scan, this means:



- 1) When a large defect or region is scanned, make sure there is no positioning pillow pressing onto the defect area, brain shifting or soft tissue movement will occur which will cause bad modelling references
- 2) For head regions the occlusal plane should be parallel to the gantry.
- 3) If dental structure is important scan the patient with a non-visible spacer between upper and lower dental bow. Please keep in mind that dental fillers will disturb/scatter the scan quality.



## 2 CT-Settings



- The CT slices should be made in a continuous sequence
- Field Of View as small as possible with the preserving of the patients outside contour.
- The longitudinal axis
- Acquire scans at a high spatial resolution. Series should be acquired with thin, contiguous image slices, 0.75 – 1.25mm is ideal

### Preferred settings

- Acquisition Helical, and minimal 2 cm across the defect on both sides.
- FOV 250 mm, choose a diameter large enough to register the entire region
- Gantry tilt 0°
- Slice thickness 1 mm (or thinnest possible)
- Window Bone window/ Detailed
- Pitch 1

## 3 Take extra care for

- 4) Slices can be distorted by previous placed implants or fillings, so if necessary position the patient in such way that the defect is free of scattering.
- 5) Export the raw data with a **bone filter** into a DICOM - format
  - (Digital Imaging and Communications in Medicine)
- 6) Patient must remain completely still through the entire scan. If patient motion occurs the scan must be restarted. No exceptions.
  - Image distortion from patient motion will severely compromise the accuracy of a model, it will be useless for the modelling of implants.

## 4 Delivery & Upload\*

- CT technician, please return the complete DICOM file to the surgeon.
- Dear client, go to <https://medx.xilloc.com> create an "User Account" → create a new "Patient Specific Implant" or "Anatomical Model" case → Fill in "Details" → "Secure Upload" → Fill in "Contact Details" → "Request Quotation".
- Please notify Xilloc Medical of your upload by sending an email to [upload@xilloc.com](mailto:upload@xilloc.com) or simply call +31 (0)43 3881881.

If there are any questions please do not hesitate to contact us at all times at +316-44670942

\* File to be delivered by the surgeon. Privacy: all efforts are undertaken to guarantee privacy of the patient's information in the framework of the ISO 13485 quality system and other NEN which apply. Personal information contained in this order form will be identified by assigning a unique case number. By providing the patient data, you confirm that your disclosure of any information is done in accordance with applicable privacy regulations and legislation. The general [terms-and-conditions](http://www.xilloc.com/terms-and-conditions) of Xilloc Medical B.V. are applicable on all orders and deliveries. [www.xilloc.com](http://www.xilloc.com)

