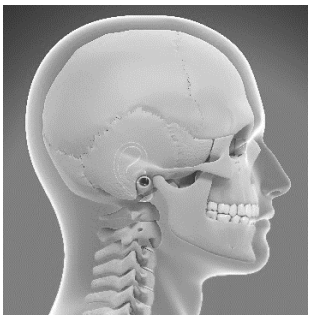
CT Scan Protocol

Cranio-Maxillofacial (CMF)

The CT scan quality is critical to the production of accurate personalized implants and patient-specific guides. Deviations from this protocol may result in an unusable scan and delay of surgery. Please contact Meticuly team for further clarification.

Scanning Parameters

Region of interest	Complete skull or Complete CMF region including mandible with condyle, orbital floor, maxilla, zygoma, nose, chin, and frontal bone	
Matrix size	512 x 512	
Voxel size	0.3 – 0.5 mm	
Slice thickness	0.625 mm or smaller	
Feed per rotation	0.625 mm or smaller	
Pitch	1 or less	
Reconstructed slice increment	0.625 mm or smaller	
Reconstruction algorithm	Standard	
Export File	DICOM	
File Format	Uncompressed standard	

CT Scanning Instruction

- Helical (spiral) scanning mode is preferred for CT image acquisition
- Scan must be less than three (3) months old.
- Capture the complete cranio-maxillofacial region including mandible with condyle, orbital floor, maxilla, zygoma, nose, chin, and frontal bone.
- Align the patient in a way that prevents as many artifacts as possible and do not deform the soft tissue.
- Minimize the artifacts caused by metallic dental restorations or orthodontic brackets by aligning the patient's occlusal plane as much as possible with the axial slices.
- Images scanned with no gantry tilt and no oblique reconstruction (i.e. use only primary axial images). No reformatting into coronal or sagittal planes.
- All slices must have the same field of view, reconstruction center, and table height.
- Scan with the same slice spacing, less than or equal to the slice thickness.
- Use the smallest field of view possible to capture the whole regions of the required bones and all soft tissue.

Data Transfer

- Provide the complete data set of raw/original DICOM images to the surgeon
- Do not erase patient name and ID. Data will be anonymized by Meticuly on receipt of the data, after cross-check with prescription of the surgeon to ensure the images of the right patient are provided.

METICULY

CT Scan Protocol

Leg

The CT scan quality is critical to the production of accurate personalized implants and patient-specific guides. Deviations from this protocol may result in an unusable scan and delay of surgery. Please contact Meticuly team for further clarification.

Scanning Parameters

Region of interest	Full leg (from below the talus to above the femoral head)	
Body side	Both left and right legs	
Matrix size	512 x 512	
Voxel size	0.5 – 1 mm	
Slice thickness	maximum 2 mm (preferred 1 mm)	
Feed per rotation	maximum 2 mm (preferred 1 mm)	
Pitch	1 or less	
Reconstructed slice increment	maximum 2 mm (preferred 1 mm)	
Reconstruction algorithm	Standard / Soft tissue	
Export File	DICOM	
File Format	Uncompressed standard	

Computed tomography angiography (CTA)	CTA imaging is required for flap surgery

CT Scanning Instruction

- Helical (spiral) scanning mode is preferred for CT image acquisition.
- Both legs could be CT scanned with a single acquisition. If CT scans of left and right sides are taken separately, both scans should be done with approximately the same setting.
- Position the patient to maximize comfort and minimize motion. If possible, position the patient as follows: supine, feet first, patellae pointing forward and the knees in maximal extension, toes pointing straight up.
- Use the smallest field of view possible to capture the whole regions of the required bones. Capturing all soft tissue is unnecessary, only the bony regions are of interest.
- Images scanned with no gantry tilt and no oblique reconstruction (i.e. use only primary axial images). No reformatting into coronal or sagittal planes.
- All slices must have the same field of view, reconstruction center, and table height.
- Scan with the same slice spacing, less than or equal to the slice thickness.

Data Transfer

- Provide the complete data set of raw/original DICOM images to the surgeon
- Do not erase patient name and ID. Data will be anonymized by Meticuly on receipt of the data, after cross-check with prescription of the surgeon to ensure the images of the right patient are provided.