# LEG (3 PARTS) CT SCAN FOR 3D SURGICAL PLANNING

This is a study for knee prostheses that will allow the assessment of the mechanical axes and the segmentation of the relevant anatomical regions for the development of surgical guides and customised implants for osteotomies of the radius

**The request shall be coded with the name LAB3D.**

| Region to study | Leg |
|---|---|
| Position of the patient | Supine decubitus. Patella without rotation and feet facing the ceiling. |

**Acquisition 1**

| Acquisition protocol | 3D Leg |
|---|---|
| Region to be studied (topogram) | Pelvis region in its totality. |
| Field Of View (FOV) | Adjust the FOV so that it does not cut off any anatomical region, making sure to include the entire femoral head. Only bony regions are of interest, so it is unnecessary to include soft parts. |
| Matrix | 512x512 |
| Detector collimation | 1.25 mm |
| Pitch | ≤ 2 |
| KVp | 90  or higher if metal or obese person |
| Automated exposure control | Activated |
| Rotation time | ≤ 1s |

**Reconstruction 1**

| MPR (Multi Planar Reconstruction) | Reconstruction in the three planes of the complete study. |
|---|---|
| Reconstruction algorithm | Single soft parts window |
| Cutting thickness MPR | 1,25-1,50 mm |
| Cutting increment | 1,25-1,50 mm (continuous slices) |

**Acquisition 2**

| Acquisition protocol | 3D Leg |
|---|---|
| Region to be studied (topogram) | From the final femoral distal third to the tibial distal third (both included), 25 cm above and below the knee. |
| Field Of View (FOV) | Adjust the FOV so that it does not cut off any anatomical region, making sure to include the entire region to be studied. Only bony regions are of interest, so it is unnecessary to include soft parts. |
| Matrix | 512x512 |
| Detector collimation | 1.25 mm |
| Pitch | ≤ 1 |
| KVp | 120 or higher if metal or obese person |
| Automated exposure control | Activated |
| Rotation time | ≤ 1s |

**Reconstruction 2**

| MPR (Multi Planar Reconstruction) | Reconstruction in the three planes of the complete study. |
|---|---|
| Reconstruction algorithm | Single soft parts window |
| Cutting thickness MPR | 1.25 mm |
| Cutting increment | 0.625-0.7mm (50% overlap) |

**Acquisition 3**

| | |
|---|---|
| Acquisition protocol | 3D Leg |
| Region to be studied (topogram) | Ankle joint with 5 cm of margin. |
| Field Of View (FOV) | Adjust the FOV so that it does not cut off any anatomical region, making sure to include the entire ankle joint. Only bony regions are of interest, so it is unnecessary to include soft parts. |
| Matrix | 512x512 |
| Detector collimation | 1.25 mm |
| Pitch | ≤ 2 |
| KVp | 120 or higher if metal or obese person |
| Automated exposure control | Activated |
| Rotation time | ≤ 1s |

**Reconstruction 3**

| | |
|---|---|
| MPR (Multi Planar Reconstruction) | Reconstruction in the three planes of the complete study. |
| Reconstruction algorithm | Single soft parts window |
| Cutting thickness MPR | 1,25-1,50 mm |
| Cutting increment | 1,25-1,50 mm (continuous slices) |

For any classification or new suggestions, please contact us:

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CT SCAN PROTOCOL Upper extremity. (2021) - Materialise

https://www.materialise.com/system/files/uploads/resources/Scan%20protocols/L-102001_Scan%20Protocol_Osteotomies_LE.pdf