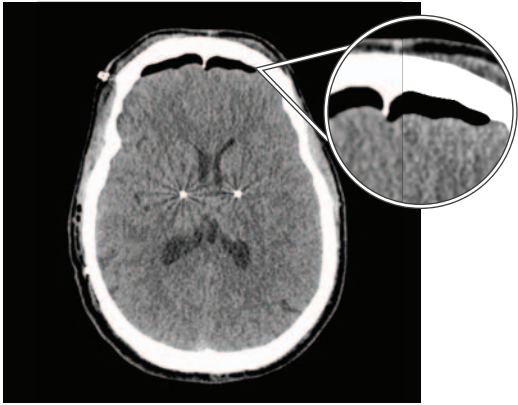


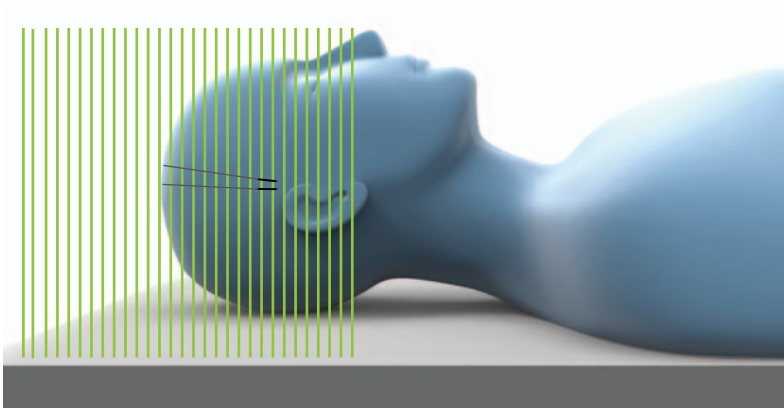
# DBS LEAD LOCALIZATION CT SCAN PROTOCOL

Brainlab Elements Lead Localization



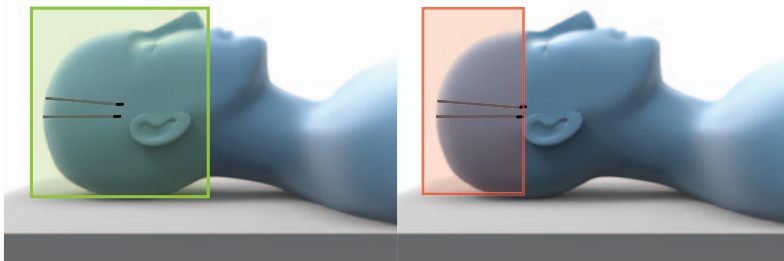
## SPECIAL INSTRUCTIONS

For DBS lead position detection and directional lead orientation estimation, Brainlab recommends performing CT scans after all brain shift has been resolved.



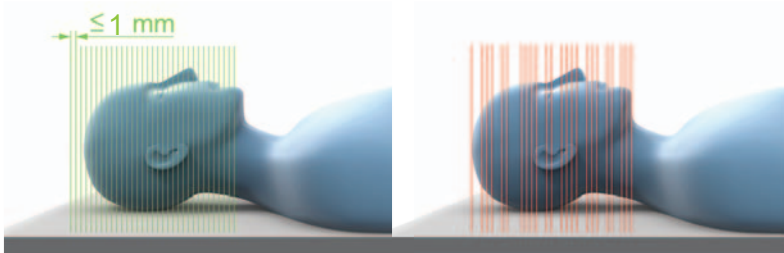
## SCAN INSTRUCTIONS

- Keep slices as orthogonal to the leads as possible.
- Do not change table height during scan.



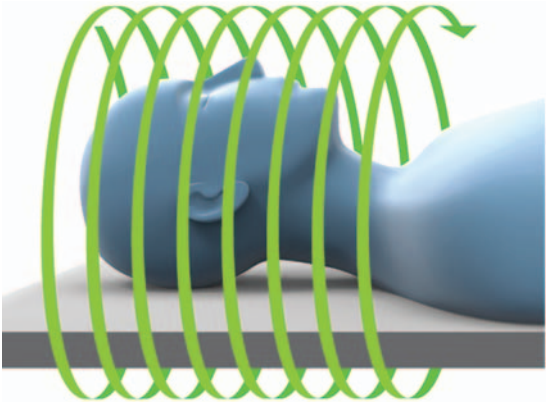
## FOV

- Scan should include complete lead(s) within the patient's skull.
- Keep FOV as small as possible.
- Do not cut off lead tip(s).



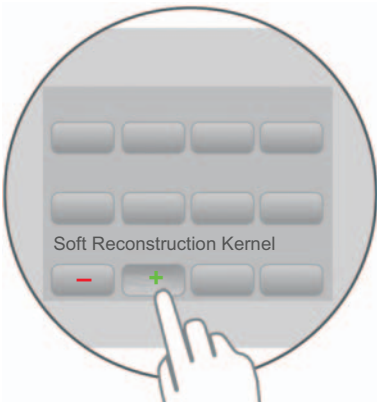
## SEQUENTIAL SCANS

- **Recommended slice thickness:**  $\leq 1$  mm.
- Do not scan with gap.



## SPIRAL/HELICAL SCANS

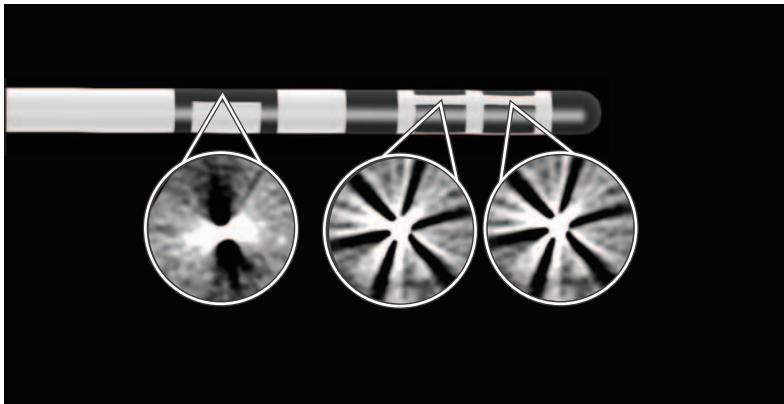
- **Slice thickness:**  $\leq 1$  mm.
- **Slice distance:** Must not exceed slice thickness.
- **Pitch:**  $\leq 1.5$ .



## KERNEL

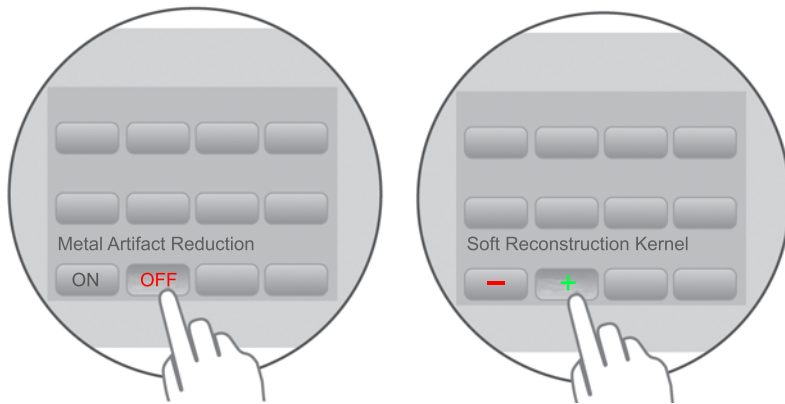
Select a soft reconstruction kernel.

# ORIENTATION ESTIMATION FOR BOSTON SCIENTIFIC DIRECTIONAL DBS LEADS



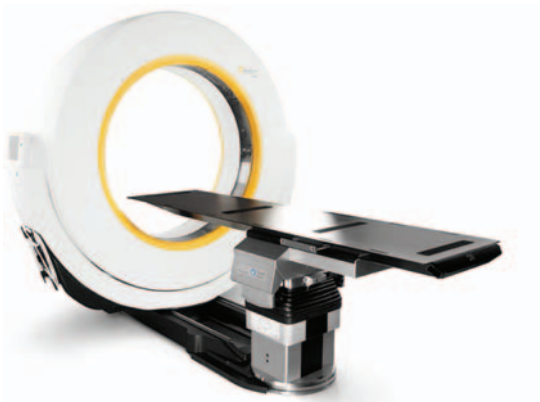
## ARTIFACTS

Ensure that the characteristic streak artifacts are formed with your system, as shown here.



## RECONSTRUCTION PARAMETERS

- Disable any metal artifact reduction algorithms.
- Select a soft reconstruction kernel.
- Multiplanar reconstruction is allowed, but use non-reconstructed slices.



## SPECIAL INSTRUCTIONS – AIRO

Brainlab recommends the “Axial Head” protocol with soft reconstruction kernel.



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