

# Robotic assisted frameless SEEG : early experience report

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We report here the use of the frameless stereotactic robot ROSA (Robotized Stereotactic Assistant) (Medtech©) in Stereotactic-EEG intracerebral electrode implantation.

Eight consecutive patients have been implanted for intractable partial seizure workup.

The age range was between 2 and 45 years. 5 to 14 electrodes were implanted per patient. All types of trajectories were allowed : orthogonal and oblique.

This system allows frontal, temporal mesial as well as lateral, parietal, central, occipital and insula electrodes placement.

In supine or procubitus position ; on one or both sides.

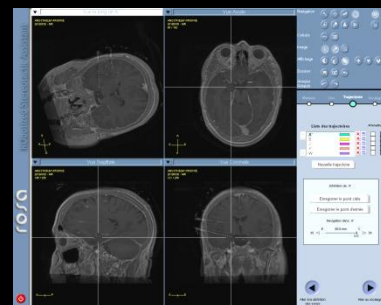
We are using a simplified technique, allowing exploration

of difficult patients, even young children. No frame, 3D MRI with contrast medium infusion, one or more sequences (FLAIR) may be used.



The first step of the procedure is to virtually determine the trajectory of the electrodes. Once the patient under general anesthesia, the head put in a regular three points holder, strongly connected to the robot.

The second step begins : the robot automatically places the drill according to the direction of each electrode.



Control of the placement is achieved using image fusion of pre op MRI and post op 3D CT scan.

In these early experience series, no mortality or morbidity has been deployed.

This technique is of peculiar interest in young children.

No significant error of trajectory due to the use of the robot has been noticed.



In conclusion : The early experience with the ROSA robot shows its usefulness in SEEG in children and adults.

It is safe, efficient and easy to use.