ROSA ONE® Brain

Publication List

This publication list includes any studies that have been published to evaluate the safety, efficacy, accuracy, and/or reliability of either the ROSA One Brain itself or the entire surgical workflow, including the ROSA One.

BIOPSY

Year	Title	Authors	Application	Link
2022	Rediscovery of the Transcerebellar Approach: Improving the Risk-Benefit Ratio in Robot-Assisted Brainstem Biopsies	Machetanz et al.	Biopsy	DOI
2021	Pushing the Boundaries of Accuracy and Reliability During Stereotactic Procedures: A Prospective Study on 526 Biopsies Comparing the Frameless Robotic and Image-Guided Surgery Systems	Mallereau et al.	Biopsy	DOI
2020	Robot-Assisted Stereotactic Biopsy of Pediatric Brainstem and Thalamic Lesions	Gupta et al.	Biopsy	DOI
2017	Robot-Assisted Stereotactic Biopsy of Diffuse Intrinsic Pontine Glioma: A Single-Center Experience	Carai et al.	Biopsy	DOI
2015	Frameless Robotic Stereotactic Biopsies: A Consecutive Series of 100 Cases	Lefranc et al.	Biopsy	DOI

DBS (Deep Brain Stimulation)

Year	Title	Authors	Application	Link
2020	A Comparative Study of Asleep and Awake Deep Brain Stimulation Robot-Assisted Surgery for Parkinson's Disease	Jin et al.	DBS	DOI
2020	Robotic-Assisted Stereotaxy for Deep Brain Stimulation Lead Implantation in Awake Patients	Faraji et al.	DBS	DOI
2019	Frameless ROSA Robot-Assisted Lead Implantation for Deep Brain Stimulation: Technique and Accuracy	Liu et al.	DBS	DOI

DBS

Year	Title	Authors	Application	Link
2019	Two Year Clinical Outcomes Associated with Robotic Assisted Subthalamic Lead Implantation in Patients with Parkinson's Disease	Paff et al.	DBS	DOI
2018	Comparative Study of Robot-Assisted Versus Conventional Frame-Based Deep Brain Stimulation Stereotactic Neurosurgery	Neudorfer et al.	DBS	DOI
2018	Improved Accuracy Using a Modified Registration Method of ROSA in Deep Brain Stimulation Surgery	Xu et al.	DBS	DOI
2017	Asleep Robot-Assisted Surgery for the Implantation of Subthalamic Electrodes Provides the Same Clinical Improvement and Therapeutic Window as Awake Surgery	Lefranc et al.	DBS	DOI
2017	Intensity-Based 2D 3D Registration for Lead Localization in Robot Guided Deep Brain Stimulation	Hunsche et al.	DBS	DOI
2015	Frameless Stereotactic Robot-Assisted Subthalamic Nucleus Deep Brain Stimulation: Case Report	Vadera et al.	DBS	DOI
2014	The Impact of the Reference Imaging Modality, Registration Methods and Intraoperative Flat-Panel Computed Tomography on the Accuracy of the ROSA Stereotactic Robot	Lefranc et al.	DBS	DOI
2014	High-Resolution 3-Dimensional T2*-Weighted Angiography (HR 3-D SWAN): An Optimized 3-T Magnetic Resonance Imaging Sequence for Targeting the Subthalamic Nucleus	Lefranc et al.	DBS	DOI
2012	Robotic Implantation of Deep Brain Stimulation Leads, Assisted by Intra-Operative, Flat-Panel CT	Lefranc et al.	DBS	DOI

LITT (Laser Interstitial Thermal Therapy)

Year	Title	Authors	Application	Link
2021	Robotic Guidance Platform for Laser Interstitial Thermal Ablation and Stereotactic Needle Biopsies: A Single Center Experience	Rubino et al.	LITT, Biopsy	DOI
2021	Stereotactic Laser Interstitial Thermal Therapy Corpus Callosotomy for the Treatment of Pediatric Drug-Resistant Epilepsy	Mallela et al.	LITT	DOI
2021	Using a Robotic-Assisted Approach for Stereotactic Laser Ablation Corpus Callosotomy: A Technical Report	Ung et al.	LITT	DOI
2020	An Initial Cost-Effectiveness Analysis of Magnetic Resonance-Guided Laser Interstitial Thermal Therapy in Pediatric Epilepsy Surgery	Sacino et al.	LITT	DOI
2018	Laser Ablation is Effective for Temporal Lobe Epilepsy With and Without Mesial Temporal Sclerosis if Hippocampal Seizure Onsets are Localized by Stereoelectroencephalography	Youngerman et al.	LITT	DOI
2016	Stereotactic Robot-Assisted MRI-Guided Laser Thermal Ablation of Radiation Necrosis in the Posterior Cranial Fossa: Technical Note	Chan et al.	LITT	DOI
2014	Robot Assisted Stereotactic Laser Ablation in Medically Intractable Epilepsy: Operative Technique	Gonzalez-Martinez et al.	LITT	DOI

RNS (Responsive Neurostimulation)

Year	Title	Authors	Application	Link
2020	Accuracy and Workflow Improvements for Responsive Neurostimulation Hippocampal Depth Electrode Placement Using Robotic Stereotaxy	Karas et al.	RNS - Stimulation or Recording Electrode	DOI
2018	Accuracy and Efficacy for Robotic Assistance in Implanting Responsive Neurostimulation Device Electrodes in Bilateral Mesial Temporal Lobe Epilepsy	Chan et al.	RNS - Stimulation or Recording Electrode	DOI

RNS

Year	Title	Authors	Application	Link
2018	Robot-Assisted Responsive Neurostimulator System Placement in Medically Intractable Epilepsy: Instrumentation and Technique	McGovern et al.	RNS - Stimulation or Recording Electrode	DOI

SEEG (Stereo-Electroencephalography)

Year	Title	Authors	Application	Link
2021	Frame-Based and Robot-Assisted Insular Stereo-Electroencephalography via an Anterior or Posterior Oblique Approach	Machetanz et al.	SEEG	DOI
2021	Robot-Assisted Stereoelectroencephalography Electrode Placement in Twenty-Three Pediatric Patients: A High-Resolution Analysis of Individual Lead Placement Time and Accuracy at a Single Institution	Bonda et al.	SEEG	DOI
2021	Robotic Stereotactic Assistance (ROSA) for Pediatric Epilepsy: A Single-Center Experience of 23 Consecutive Cases	Nelson et al.	SEEG	DOI
2020	Oblique Trajectory Angles in Robotic Stereo-Electroencephalography	Rollo et al.	SEEG	DOI
2020	Rigid Cranial Fixation for Robot-Assisted Stereoelectroencephalography in Toddlers: Technical Considerations	Alexander et al.	SEEG (Head Fixation)	DOI
2019	Analysis of Morbidity and Outcomes Associated with Use of Subdural Grids vs Stereoelectroencephalography in Patients with Intractable Epilepsy	Tandon et al.	SEEG	DOI
2019	Electrode Placement Accuracy in Robot-Assisted Epilepsy Surgery: A Comparison of Different Referencing Techniques Including Frame-Based CT versus Facial Laser Scan Based on CT or MRI	Spyrantis et al.	SEEG	DOI

SEEG

Year	Title	Authors	Application	Link
2019	Robot-Assisted Versus Manual Navigated Stereoelectroencephalography in Adult Medically-Refractory Epilepsy Patients	Kim et al.	SEEG	DOI
2018	Frameless Robot-Assisted Stereoelectroencephalography in Children: Technical Aspects and Comparison with Talairach Frame Technique	Abel et al.	SEEG	DOI
2018	Robot-Guided Stereoelectroencephalography Without a Computed Tomography Scan for Referencing: Analysis of Accuracy	Spyrantis et al.	SEEG	DOI
2017	Efficacy and Safety in Frameless Robot-Assisted Stereo-Electroencephalography (SEEG) for Drug-Resistant Epilepsy	Ollivier et al.	SEEG	DOI
2016	Technique, Results, and Complications Related to Robot-Assisted Stereoelectroencephalography	Gonzalez-Martinez et al.	SEEG	DOI
2014	Stereoelectroencephalography in Children with Cortical Dysplasia: Technique and Results	Gonzalez-Martinez et al.	SEEG	DOI
2014	The Stereotactic Approach for Mapping Epileptic Networks: A Prospective Study of 200 Patients	Selertis et al.	SEEG	DOI

OTHER

Year	Title	Authors	Application	Link
2021	Minimally Invasive Fully ROBOT-Assisted Cochlear Implantation in Humans: Preliminary Results in Five Consecutive Patients	Klopp-Dutote et al.	Cochlear Implant - Stimulation or Recording Electrode	DOI
2018	Endoscope-Assisted (with Robotic Guidance and Using a Hybrid Technique) Interhemispheric Transcallosal Hemispherotomy: A Comparative Study with Open Hemispherotomy to Evaluate Efficacy, Complications, and Outcome	Chandra et al.	Endoscope-Assisted Hemispherotomy	DOI

OTHER

Year	Title	Authors	Application	Link
2017	**Robot-Assisted Endoscopic Third Ventriculostomy: Institutional Experience in 9 Patients**	Hoshide et al.	Endoscopic Third Ventriculostomy	DOI
2019	**Efficacy Analysis of Robot-Assisted Minimally Invasive Surgery for Small-Volume Spontaneous Thalamic Hemorrhage**	Wang et al.	Hemorrhage Evacuation - Catheter Placement	DOI
2021	**Intraparenchymal Hematoma and Intraventricular Catheter Placement Using Robotic Stereotactic Assistance (ROSA): A Single Center Preliminary Experience**	Alan et al.	Intraventricular Catheter Placement	DOI
2017	**Robotic Stereotactic Assistance (ROSA) Utilization for Minimally Invasive Placement of Intraparenchymal Hematoma and Intraventricular Catheters**	Alan et al.	Intraventricular Catheter Placement	DOI
2020	**Time Efficiency in Stereotactic Robot-Assisted Surgery: An Appraisal of the Surgical Procedure and Surgeon's Learning Curve**	Machetanz et al.	Multiple: Biopsy, SEEG	DOI
2018	**Expanding the Spectrum of Robotic Assistance in Cranial Neurosurgery**	Pillai et al.	Multiple: Biopsy, Catheter Placement, DBS, Endoscopy, RF Ablation, SEEG	DOI
2017	**The Comparative Accuracy of the ROSA Stereotactic Robot Across a Wide Range of Clinical Applications and Registration Techniques**	Brandmeir et al.	Multiple: LITT, RNS, SEEG	DOI
2017	**Robot-Assisted Procedures in Pediatric Neurosurgery**	De Benedictis et al.	Multiple: Biopsy, Cyst Aspiration, DBS, Endoscopy, Pallidotomy, SEEG, Shunt Placement	DOI
2021	**Robotic Thermocoagulative Hemispherotomy: Concept, Feasibility, Outcomes, and Safety of a New "Bloodless" Technique**	Chandra et al.	RF Ablation - Stimulation or Recording Electrode	DOI

OTHER

Year	Title	Authors	Application	Link
2020	**Stereotactic Radiofrequency Thermocoagulation and Resective Surgery for Patients with Hypothalamic Hamartoma**	Wang et al.	RF Ablation - Stimulation or Recording Electrode	DOI
2018	**Stereotactic Radiofrequency Thermocoagulation of Hypothalamic Hamartoma using Robotic Guidance (ROSA) Co-Registered with O-Arm Guidance - Preliminary Technical Note**	Tandon et al.	RF Ablation - Stimulation or Recording Electrode	DOI
2021	**Robot-Assisted Stereotactic Shunting as a Novel Treatment for Pontine Glioependymal Cysts**	Schieferdecker et al.	Shunt Placement	DOI
2021	**Robot-Guided Ventriculoperitoneal Shunt in Slit-Like Ventricles**	Doddamani et al.	Shunt Placement	DOI

DBS: Deep Brain Stimulation • LITT: Laser-Interstitial Thermal Therapy • RF: Radiofrequency • RNS: Responsive Neurostimulation • SEEG: Stereo-Electroencephalography

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