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Title	Author	Year	Journal	Keywords	Link
Survey Assessment of Utility in Preoperative Magnetic Resonance (MR) Tractography Surgical Planning	Mayur Sharma	2023	World Neurosurgery	Preoperative Planning, Elements Fibertracking, Brain Tumor	Go to article
Mixed Reality as a Teaching Tool for Medical Students in Neurosurgery	Silvero Isidre et al. (2023)	2023	Medicina	Elements Mixed Reality Viewer, Education	Go to article
Augmented reality-assisted craniofacial reconstruction in skull base lesions - an innovative technique for single-step resection and cranioplasty in neurosurgery	Christine Steiert	2022	Neurosurgical review	Elements Mixed Reality Viewer, Elements SmartBrush, Orbital Reconstruction, Patient Specific Implants	Go to article
Predicting the need for cerebrospinal fluid shunt implantation after spontaneous intracerebral hemorrhage: a challenging task	Khalaveh et al.	2023	Frontiers in neurology	Elements SmartBrush, Intracerebral hemorrhage, Shunt, External Ventricular Drain	Go to article
Mixed reality compared to the traditional ex cathedra format for neuroanatomy learning: the value of a three-dimensional virtual environment to better understand the real world	Sandralagar et al.	2024	Neurosurgical focus	Elements Viewer, Elements Mixed Reality Viewer, Magic Leap, Elements Fibertracking, Vascular Malformations, Education	Go to article
Combined use of 3D printing and mixed reality technology for neurosurgical training: getting ready for brain surgery	Jeising et al.	2024	Neurosurgical focus	Elements Viewer, Elements Mixed Reality Viewer, Magic Leap, Brain Tumor Resection, Mixed Reality, Education	Go to article
Accuracy of augmented reality-guided drainage versus stereotactic and conventional puncture in an intracerebral hemorrhage phantom model	Demerath et al.	2023	Journal of neurointerventional surgery	Elements Viewer, Elements Mixed Reality Viewer, Magic Leap, Elements Trajectory Planning	Go to article
Improving tractography in brainstem cavernoma patients by distortion correction	Liang et al.	2023	Brain and Spine	Elements Distortion Correction Cranial, Elements Image Fusion, Elements Fibertracking, Diffusion Tensor Imaging, Cavernomas	Go to article
Preoperative tractography algorithm for safe resection of tumors located in the descending motor pathways zone	Ordonez-Rubiano et al.	2023	Surgical neurology international	Cranial Navigation, Elements SmartBrush, Elements Fibertracking, Brain Tumor, Diffusion Tensor Imaging	Go to article
Usability of mixed reality in awake craniotomy planning	Moon, Barua	2022	British journal of neurosurgery	Magic Leap, Elements Segmentation Cranial, Elements Fibertracking, Elements Distortion Correction Cranial, Elements SmartBrush, Elements Mixed Reality Viewer	Go to article



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Preoperative prediction of language function by diffusion tensor imaging	C. F. Freyschlag	2017	Brain Inform	Elements Distortion Correction Cranial, Diffusion Tensor Imaging, Cranial Navigation, Gliomas, Awake Surgery	Go to article
Associations between clinical outcome and navigated transcranial magnetic stimulation characteristics in patients with motoreloquent brain lesions: a combined navigated transcranial magnetic stimulation-diffusion tensor imaging fiber tracking approach.	C. F. Freyschlag	2017	Brain Inform	Elements Fibertracking, Cranial Navigation, Transcranial Magnetic Stimulation, Diffusion Tensor Imaging	Go to article
Functional MRI in Children: Current Clinical Applications	Guerin et al.	2020	Seminars in pediatric neurology	Pediatric, Elements BOLD MRI Mapping	Go to article
Optic Radiation Diffusion Tensor Imaging Tractography. An Alternative and Simple Technique for the Accurate Detection of Meyer's Loop	Bertani et al.	2018	World neurosurgery	Elements Fibertracking, Diffusion Tensor Imaging	Go to article
Risk Assessment by Presurgical Tractography Using Navigated TMS Maps in Patients with Highly Motor- or Language-Eloquent Brain Tumors	Sollmann et al.	2020	Cancers	Elements Fibertracking, Diffusion Tensor Imaging	Go to article
Intraoperative high-field magnetic resonance imaging, multimodal neuronavigation, and intraoperative electrophysiological monitoring-guided surgery for treating supratentorial cavernomas	Li et al.	2016	Chronic diseases and translational medicine	Elements BOLD MRI Mapping, Brainshift, Intraoperative Ultrasound, Cavernomas	Go to article
Testing the Reliability of BOLD-fMRI Motor Mapping in Patients with Cerebral Arteriovenous Malformations by Electric Cortical Stimulation and Surgery Outcomes	Wang et al.	2016	World neurosurgery	Elements BOLD MRI Mapping, Arteriovenous Malformation (AVM), Electric Cortical Stimulation, Brainshift	Go to article
Functional Magnetic Resonance Imaging (fMRI), Pre-intraoperative Tractography in Neurosurgery: The Experience of Sant' Andrea Rome University Hospital	D'Andrea et al.	2017	Acta neurochirurgica. Supplement	Elements BOLD MRI Mapping, Diffusion Tensor Imaging, Brainshift	Go to article
Pre-operative image-based segmentation of the cranial nerves and blood vessels in microvascular decompression: Can we prevent unnecessary explorations?	Dolati et al.	2015	Clinical neurology and neurosurgery	Elements SmartBrush, Cranial Navigation, Deliniation, Trigeminal Neuralgia, Nerve Segmentation	Go to article



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Fully Automated Enhanced Tumor Compartmentalization: Man vs. Machine Reloaded	Porz et al.	2016	PloS one	VarioGuide, Elements SmartBrush, Glioblastoma, Deliniation, Brain Tumor	Go to article
Distinct displacements of the optic radiation based on tumor location revealed using preoperative diffusion tensor imaging	Faust, Vajkoczy	2016	Journal of neurosurgery	Elements Fibertracking, Diffusion Tensor Imaging, Optic Radiation, Brain Tumor Resection, Temporal Lobe, Visual Field Defect	Go to article
Multimodal Neuronavigation in Microsurgery Resection of BrainStem Tumors	Zhang et al.	2016	The Journal of craniofacial surgery	Cranial Navigation, Elements SmartBrush, Brain Tumor, Deliniation, Diffusion Tensor Imaging	Go to article
Specific DTI seeding and diffusivity-analysis improve the quality and prognostic value of TMS-based deterministic DTI of the pyramidal tract	Rosenstock et al.	2017	NeuroImage. Clinical	Elements Fibertracking, Transcranial Magnetic Stimulation, Motor Outcome, Gliomas, Brain Tumor Resection	Go to article
Visualization of subcortical language pathways by diffusion tensor imaging fiber tracking based on rTMS language mapping	Negwer et al.	2017	Brain imaging and behavior	Elements Fibertracking, Diffusion Tensor Imaging, Transcranial Magnetic Stimulation, Cortical Mapping	Go to article
Progressive disease in glioblastoma: Benefits and limitations of semi-automated volumetry	Huber et al.	2017	PloS one	Elements SmartBrush, Glioblastoma, Volumetric Analysis, 3D	Go to article
Reliability of Semi-Automated Segmentations in Glioblastoma	Huber et al.	2017	Clinical neuroradiology	Elements SmartBrush, Glioblastoma, Volumetric Analysis, 3D	Go to article
Optic Radiation Diffusion Tensor Imaging Tractography: An Alternative and Simple Technique for the Accurate Detection of Meyer's Loop	Bertani et al.	2018	World neurosurgery	Elements Fibertracking, Diffusion Tensor Imaging, Optic Radiation	Go to article
Retrospective distortion correction of diffusion tensor imaging data by semi-elastic image fusion - Evaluation by means of anatomical landmarks	Gerhardt et al.	2019	Clinical neurology and neurosurgery	Elements Distortion Correction Cranial, Elements Image Fusion, Elements Viewer, Diffusion Tensor Imaging	Go to article
Brain Tumor-Enhancement Visualization and Morphometric Assessment: A Comparison of MPRAGE, SPACE, and VIBE MRI Techniques	Danieli et al.	2019	AJNR. American journal of neuroradiology	Elements Image Fusion, Cranial Navigation, Brain Tumor, 3D	Go to article
Frameless stereotactic biopsy for precision neurosurgery: diagnostic value, safety, and accuracy	Sciortino et al.	2019	Acta neurochirurgica	Elements Image Fusion, VarioGuide, Cranial Navigation, Biopsy, Gliomas, Frameless Stereotaxy	Go to article



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Frameless Stereotactic Navigation during Insular Glioma Resection using Fusion of Three-Dimensional Rotational Angiography and Magnetic Resonance Imaging	Dasenbrock et al.	2019	World neurosurgery	Elements Image Fusion, Z Touch, Frameless Stereotaxy, Gliomas, Angiography	Go to article
Clinical Uses of Diffusion Tensor Imaging Fiber Tracking Merged Neuronavigation with Lesions Adjacent to Corticospinal Tract : A Retrospective Cohort Study	Yu et al.	2020	Journal of Korean Neurosurgical Society	Elements Fibertracking, Cranial Navigation, Diffusion Tensor Imaging, Brain Tumor	Go to article
Augmented reality for the virtual dissection of white matter pathways	Ille et al.	2020	Acta neurochirurgica	Magic Leap, Elements Fibertracking, Augmented Reality, Gliomas, Awake Surgery, Elements Mixed Reality Viewer, Education	Go to article
Streamlining streamlines: Probabilistic versus deterministic tractography algorithms in two CE marked software packages - ScienceDirect	Jessica Fitzpatrick	2024	Physica Medica	Elements Fibertracking	Go to article