NEURO 3D TRAINER

Breaking the traditional limits of education

www.3dneurotrainer.com

WHO WE ARE

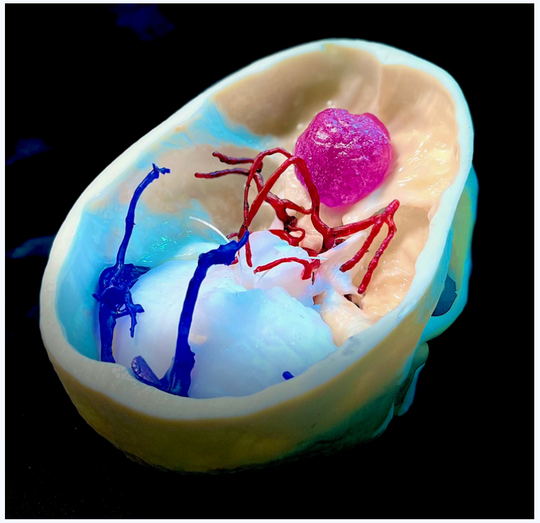
Multidisciplinar team with a wide experience in the fields of neurosurgery, design and product development, additive manufacturing, toys and plastic industry. The result: Anatomy Models and Neurosurgery Simulators created with the most real-like materials to biological tissues

Improving medical education by implementing accurate surgical simulators based on real scenarios

The sustainable option to the cadaver practice and training

ANATOMY MODELS

The most accurate and scaled to real size anatomy models based on human specimens.
The latest 3D software and printing technology applied to recreate every anatomical detail.



SURGICAL SIMULATORS

Precisely designed and manufactured simulators through real scenarios based on the most common Neurosurgical Pathologies.
The most advanced neurosurgical simulators to plan and practice skin incisions, burr-holes, craniotomies, dural openings, tumor removals, on which the latest intraoperative technology can be applied.

NEURO 3D TRAINER

THE HIGHEST ACCURACY AND REALISM

Our products are created to be implemented in Neurosurgical training activities. Users may acquire first hand knowledge and surgical skills.
The anatomy models and surgical simulators are produced with materials similar to the cranial and spinal biological tissues. They are fully compatible with surgical implants and intraoperative devices, making them ideal not only for medical students, but also for surgeons under training and medical companies.

OUR EDUCATIONAL APPROACH

Breaking the traditional limits of education

MEDICAL STUDENTS

The highest accuracy applied to Neuroanatomy.
Ideal anatomy models to teach and learn Neuroanatomy in a medical environment.

DESKTOP ANATOMICAL MODELS

Custom models with precise anatomical details as well as the most common Neurosurgical pathologies.
Discuss surgical details with your patients.

NEUROSURGERY TRAINING

The perfect tool to create real neurosurgical scenarios for trainees, ready to study, discuss, plan and perform as in a real neurosurgical environment.

PREOPERATIVE PLANNING & PRACTICE OF COMPLEX CASES

Multiple common real cases in one single simulator. Available with the preoperative images a ready to be operated

HEALTHCARE COMPANIES

The ideal complement to perform surgical technology demonstrations and test new surgical products

NEURO 3D TRAINER

HEAD ANATOMY MODELS

The latest 3D software and printing technology combined with moulded parts made with traditional techniques applied to recreate the anatomical details

Every model is scaled 1:1, precisely reproducing the anatomy of the skull and brain. All together fit perfectly to create the whole human head model

SKIN

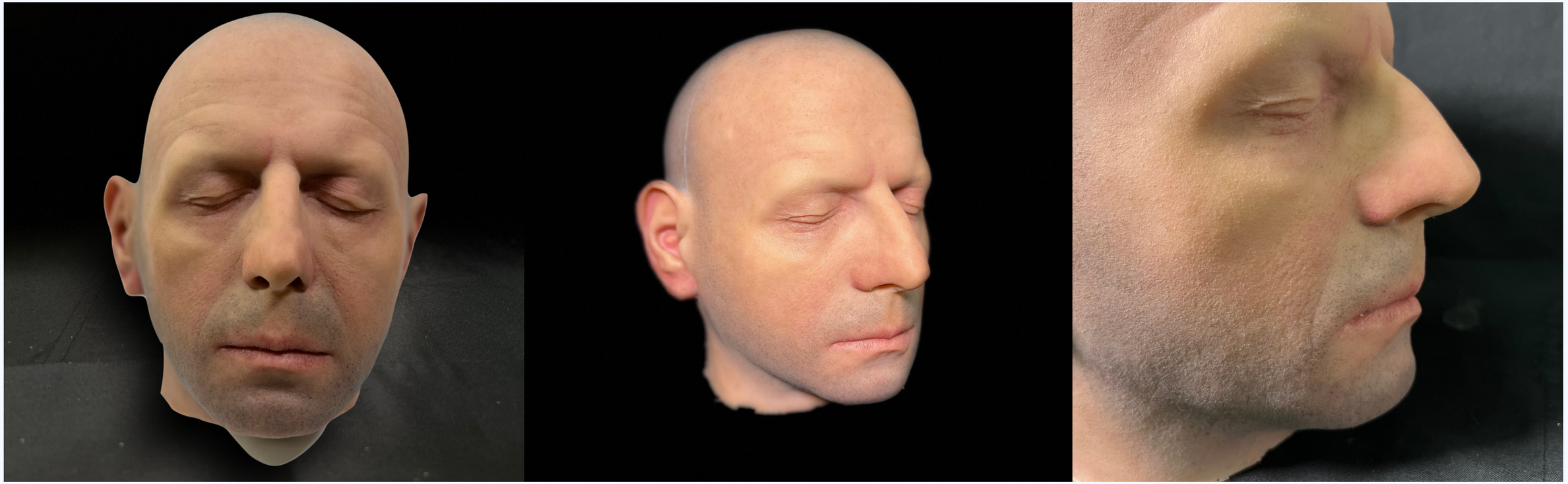
Skin easily adaptable to fit in the SKULL models

1:1 scaled model with flexible properties allowing cuts, retraction forces and sutures

REALISTIC SKIN

Skin easily adaptable to fit in the SKULL models

1:1 scaled model made-up to achieve a realistic impression. Flexible properties allowing cuts, retraction forces and sutures



SUPER REALISTIC SKIN

The most realistic skin for the most realistic training

1:1 scaled model with flexible properties allowing cuts, retraction forces and sutures

ANATOMY SKULL (4 PIECES)

Perfect replica from an original human skull

1:1 scaled model made on 4 pieces easily attachable: two halves of the skull including the nasal septum, calvarium and jaw

ANATOMY SKULL (2 PIECES)

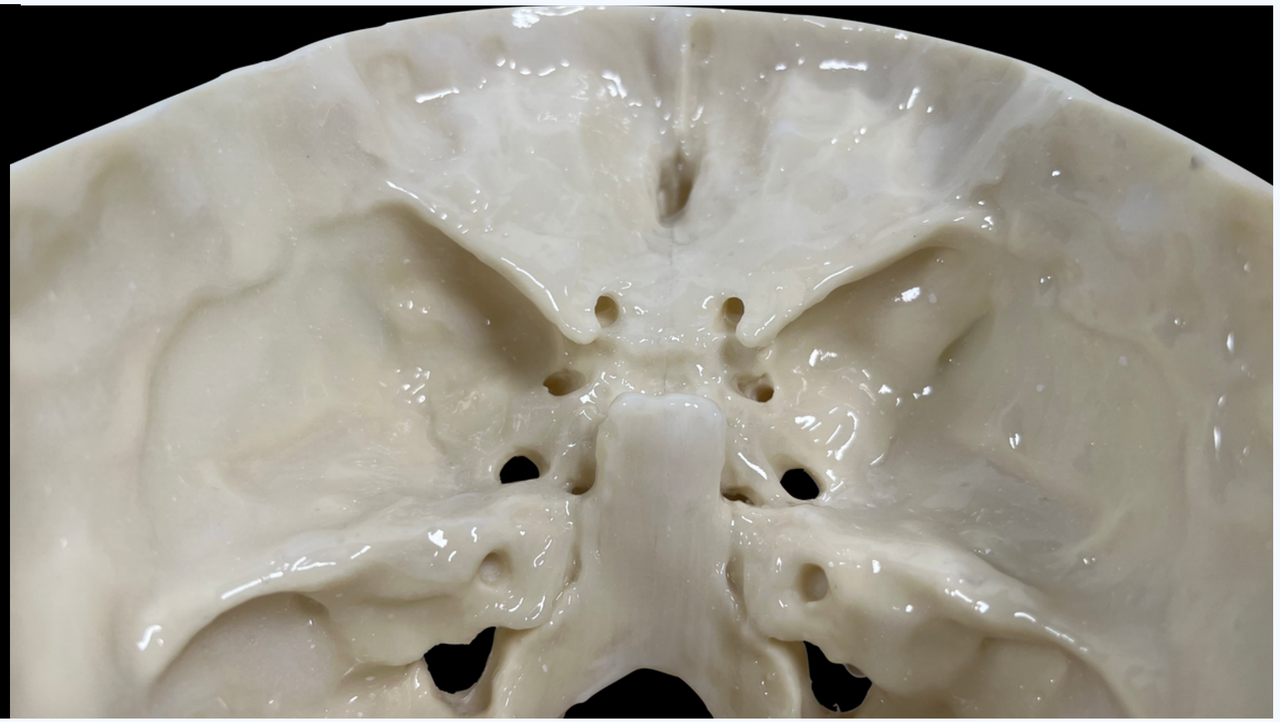
Perfect replica from an original human skull

1:1 scaled model made on 2 pieces easily attachable: skull base and calvarium.
Extra parts available: skin, venous sinuses, arteries, falx & tentorium, brain, cerebellum & brainstem, intracranial aneurysms

REALISTIC SKULL

Perfect replica from an original human skull

1:1 scaled model made on 2 pieces easily attachable: skull base and calvarium. Made of a real human being multi-slice CT-scan
Extra parts available: CT Scan DICOM Files, skin, venous sinuses, arteries, falx & tentorium, brain, cerebellum & brainstem, intracranial aneurysms



BRAIN

Flexible brain replica

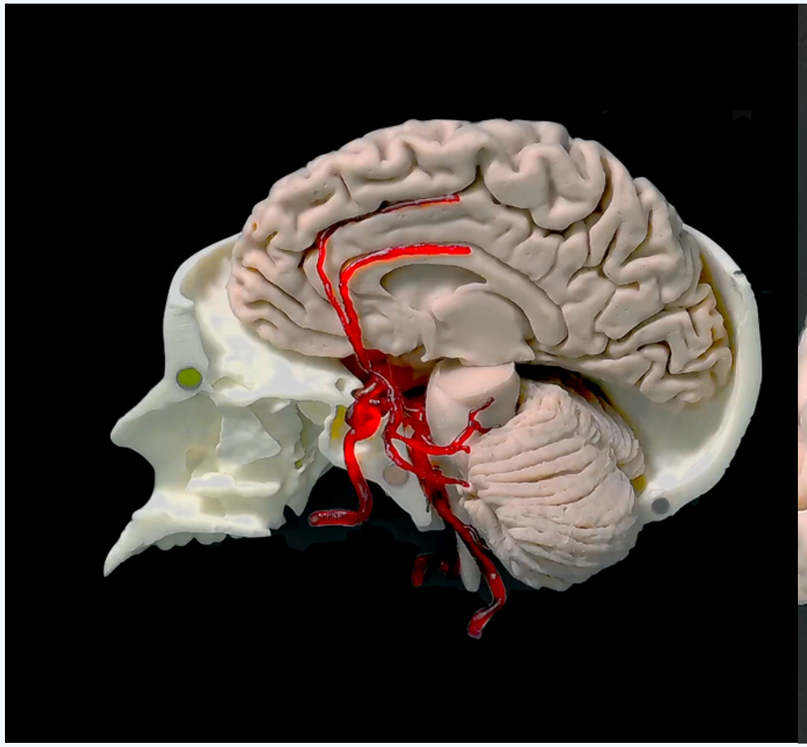
1:1 scaled human brain: right and left hemispheres, brainstem & cerebellum (3 pieces)

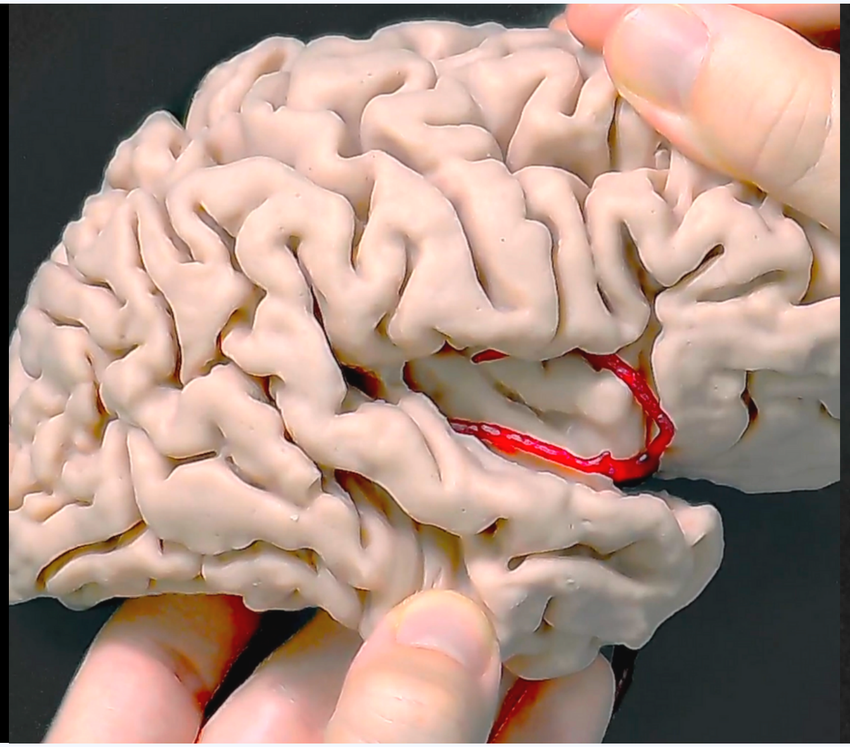
NEURO 3D TRAINER

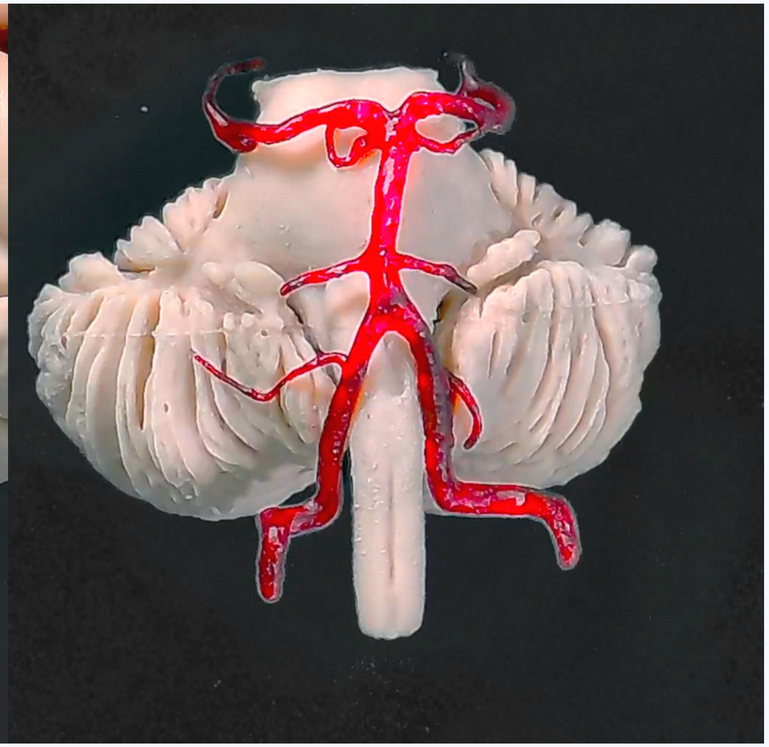
ARTERIES

3D printed cerebral arteries

1:1 scaled cerebral arteries extracted from a 3D angiography. Flexible and easily adaptable to the SKULL and BRAIN models





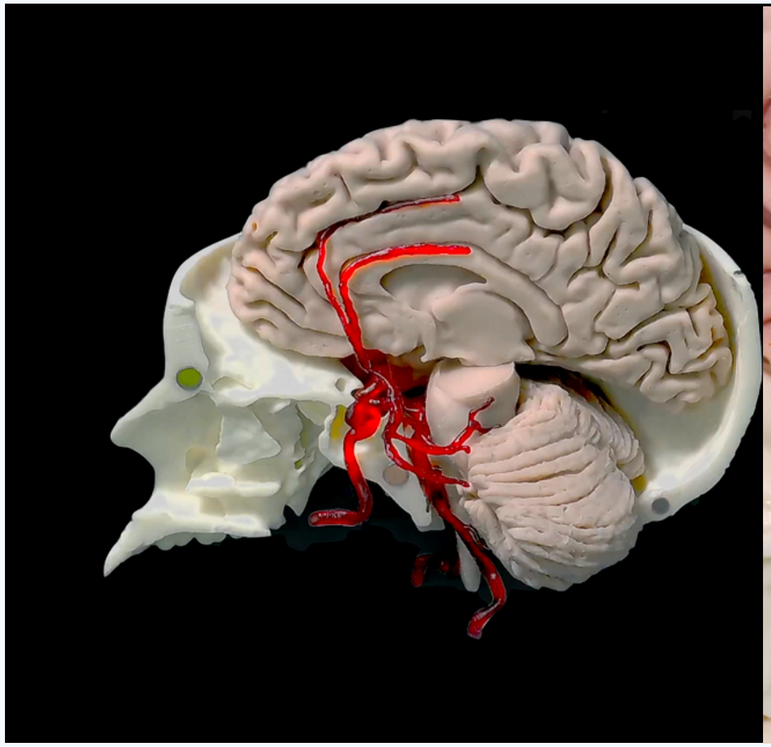


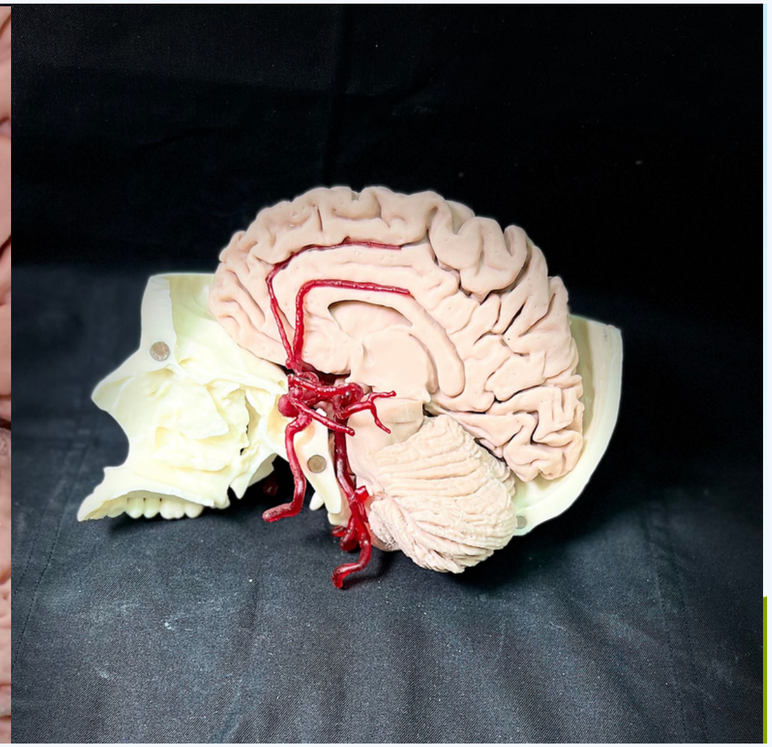
NEURO 3D TRAINER

ARTERIES WITH ANEURYSMS

3D printed cerebral arteries with aneurysms

1:1 scaled cerebral arteries extracted from a 3D angiography. Aneurysms: PComA, MCA, AComA, OphA, PCA, Basilar tip, PICA



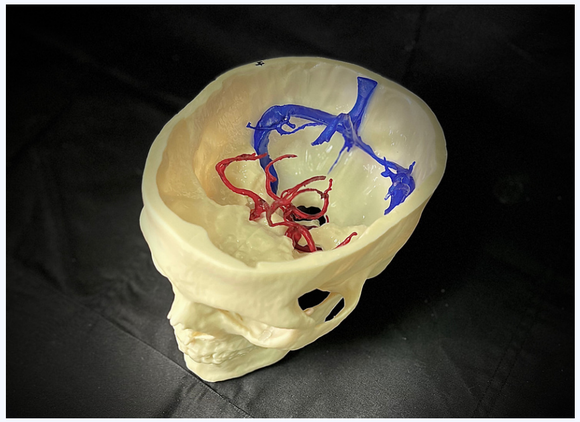


ANATOMY MODELS - EXTRAS

VENOUS DURAL SINUSES

3D printed cerebral venous dural sinuses

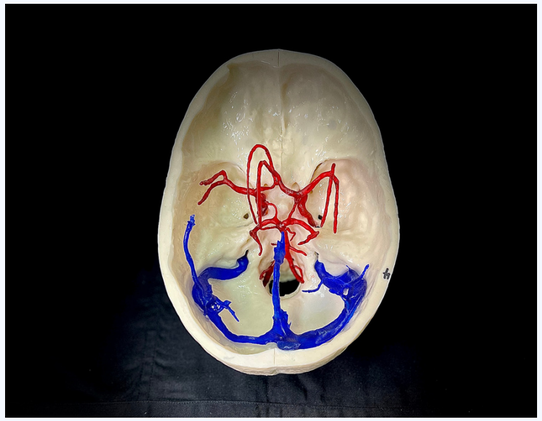
1:1 scaled venous sinuses extracted from a 3D angioMRI. Flexible and easily adaptable to the SKULL model: superior longitudinal, transverse and sigmoid sinuses



ARTERIES - WITH AND WITHOUT ANEURYSMS

3D printed cerebral arteries

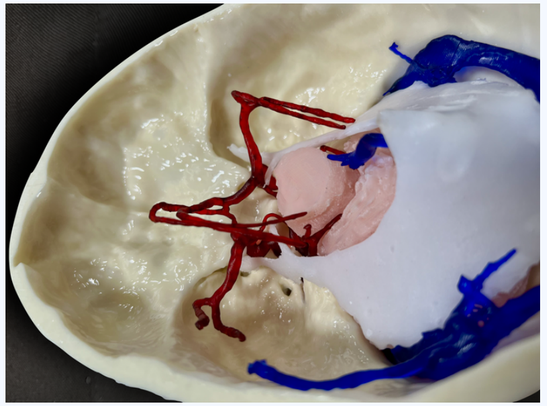
1:1 scaled cerebral arteries extracted from a 3D angiography. Flexible and easily adaptable to the SKULL model



FALX & TENTORIUM

Falx and tentorium

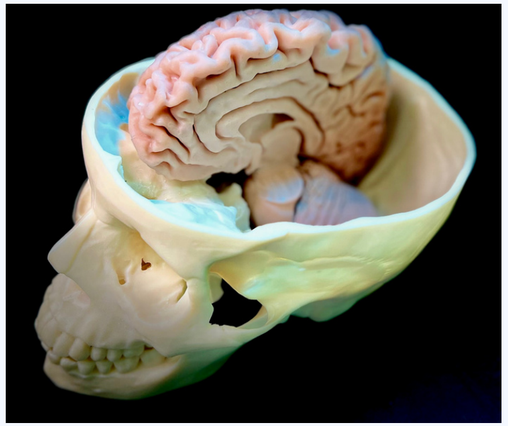
1:1 scaled Falco-tentorial dura mater extracted from a MRI of a real case. Flexible and easily adaptable to the SKULL model



BRAIN

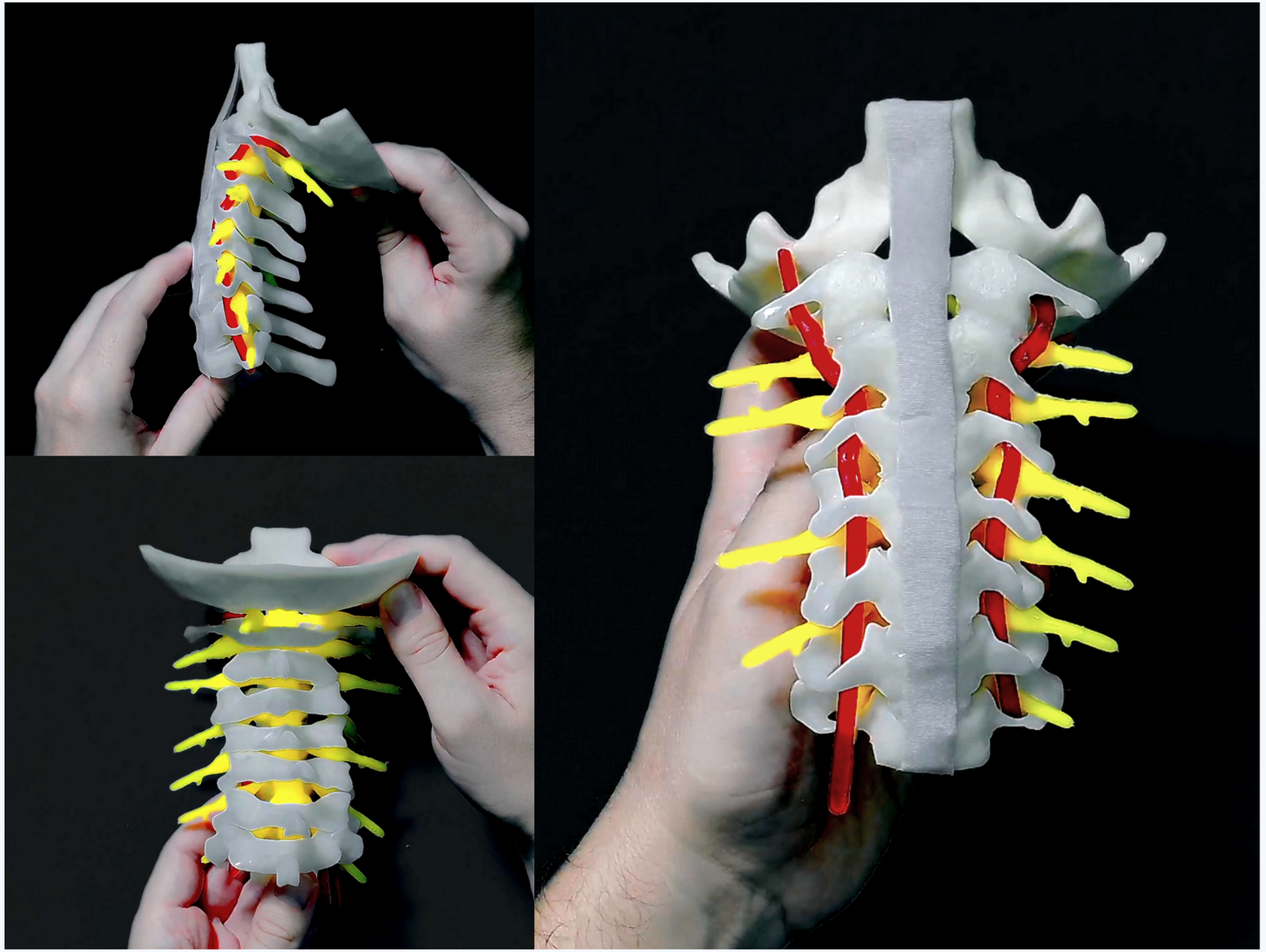
Flexible brain replica

1:1 scaled human brain right and left hemispheres, brainstem & cerebellum (3 pieces)



SPINE ANATOMY MODELS

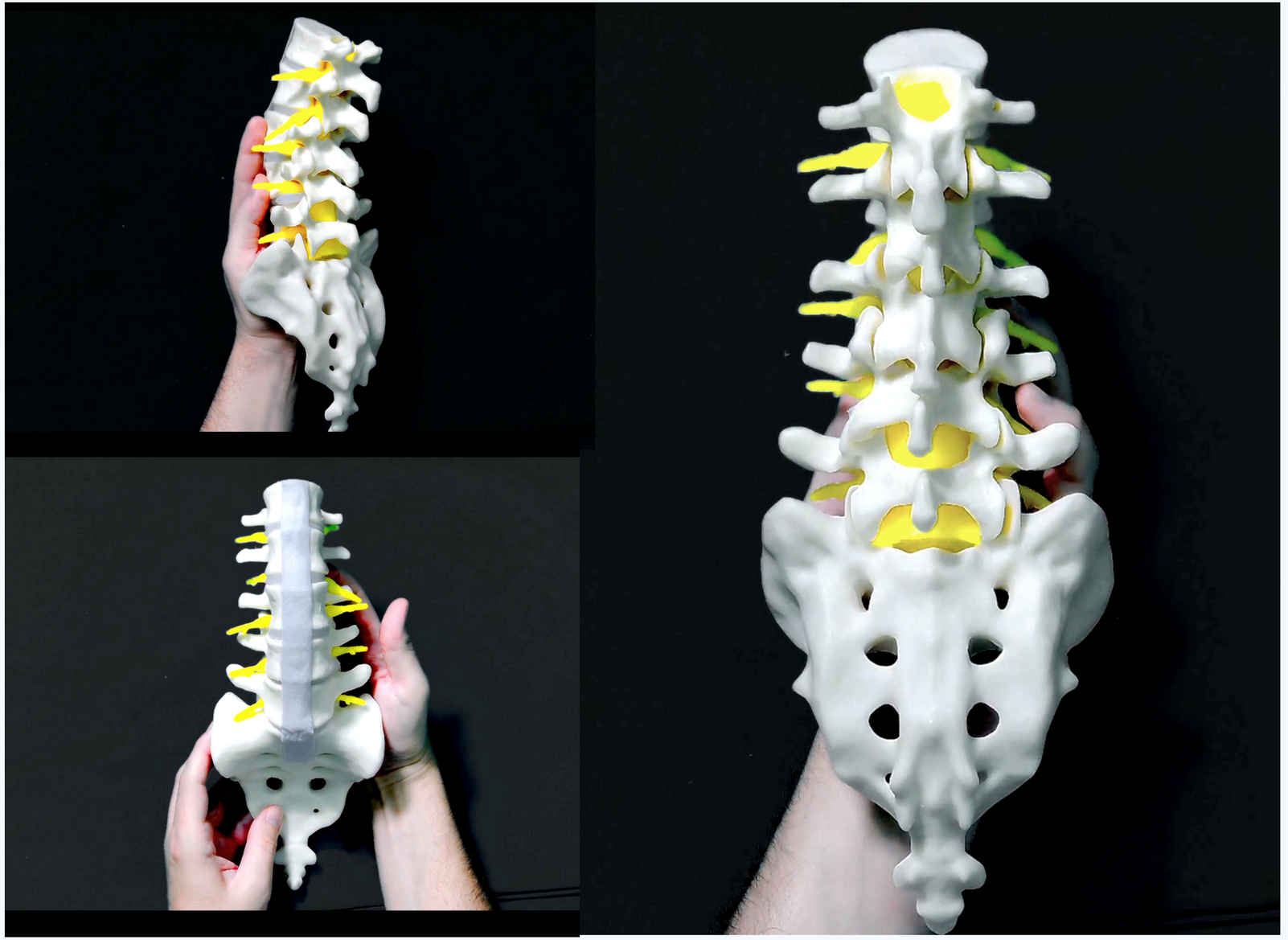
Accurately designed and produced spine models with realistic anatomical details 1:1 scaled.



CRANIOCERVICAL JUNCTION

Perfect replica from an original human craniocervical junction

1:1 scaled occipital bone, cervical vertebrae, vertebral arteries, intervertebral discs, cord and nerves.



LUMBOSACRAL JUNCTION. PATHOLOGY MODEL

Perfect replica from an original human lumbosacral junction

1:1 scaled lumbar vertebrae, sacrum, ligamentum flavum, intervertebral discs, dural sac and nerves.
Pathology: lumbar disc herniation, bilateral facets hypertrophy, spondylolisthesis

NEURO 3D TRAINER

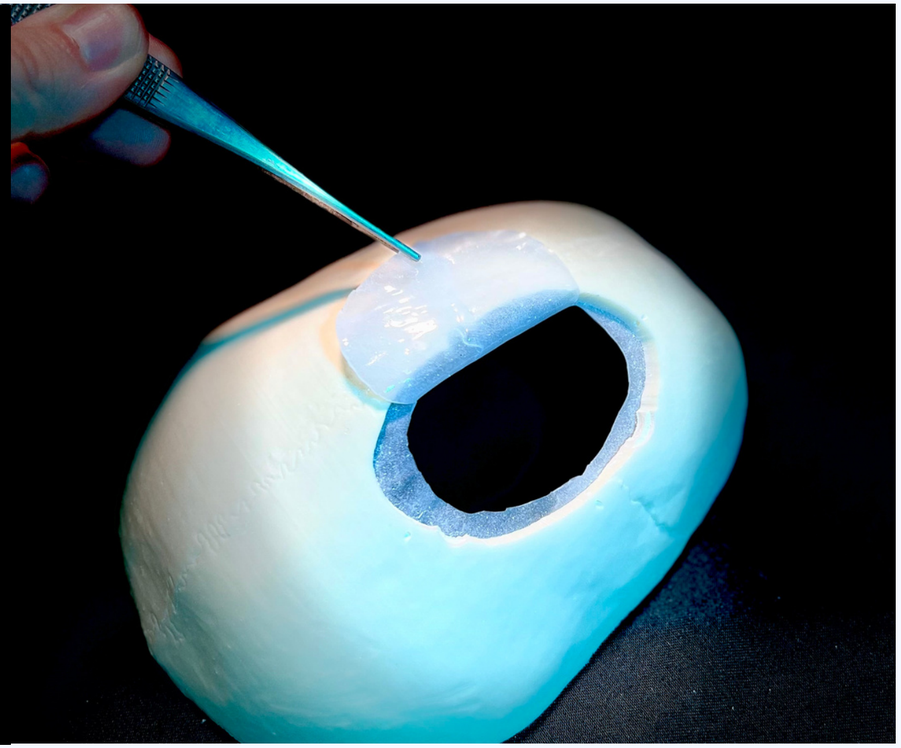
HEAD NEUROSURGICAL SIMULATORS

Precisely designed and manufactured models based on the most common Neurosurgical pathologies ready for surgery.
The most advanced neurosurgical simulators to plan and practice skin incisions, burr-holes, craniotomies, dural openings, tumors removal, on which the latest intraoperative technology may be applied.

BURR-HOLES SIMULATOR

Basic burr-holes and convexity craniotomies simulator

1:1 scaled from a real human CT scan, with similar drilling properties to the human bone, and dura mater on the inner cortical bone
Human calvarium with accurate craniometric points including bregma, coronal and sagittal sutures

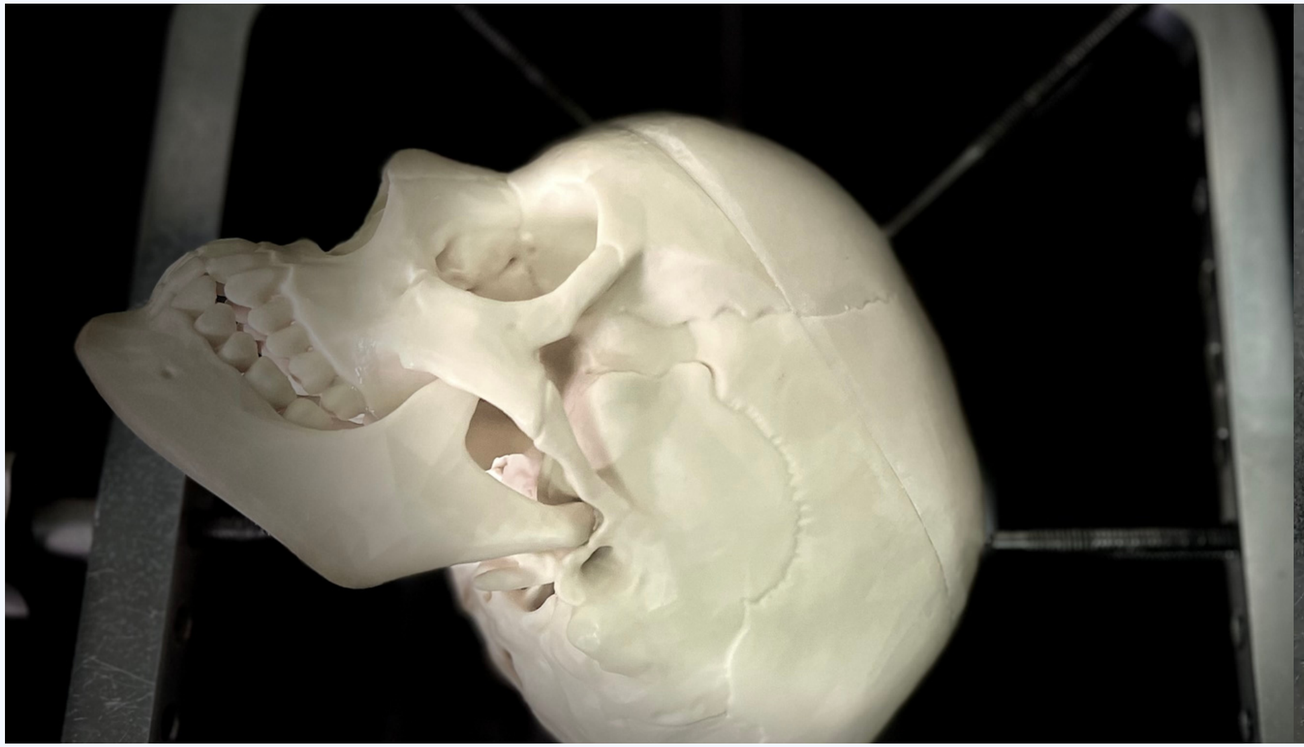


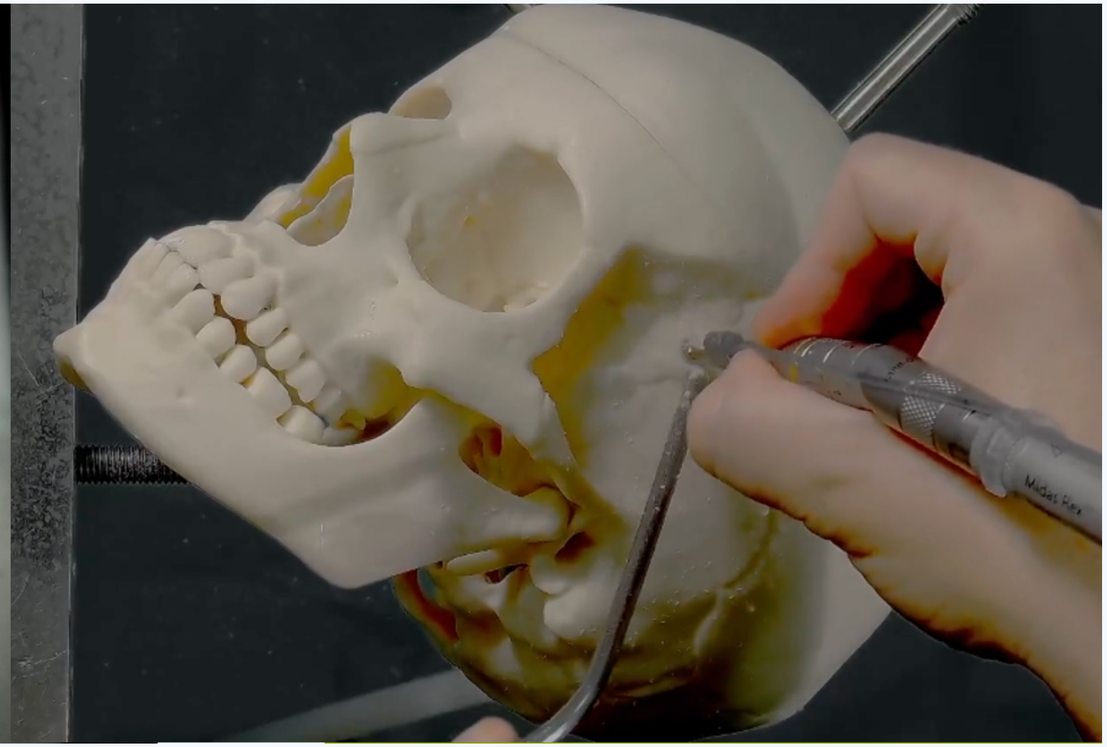
NEURO 3D TRAINER

CRANIOTOMIES SIMULATOR

Skull base and common craniotomies simulator

1:1 scaled from a real human CT scan with similar drilling properties to the human bone, and dura mater on the inner cortical bone
Whole human skull with all the craniometric points, fissures and canals

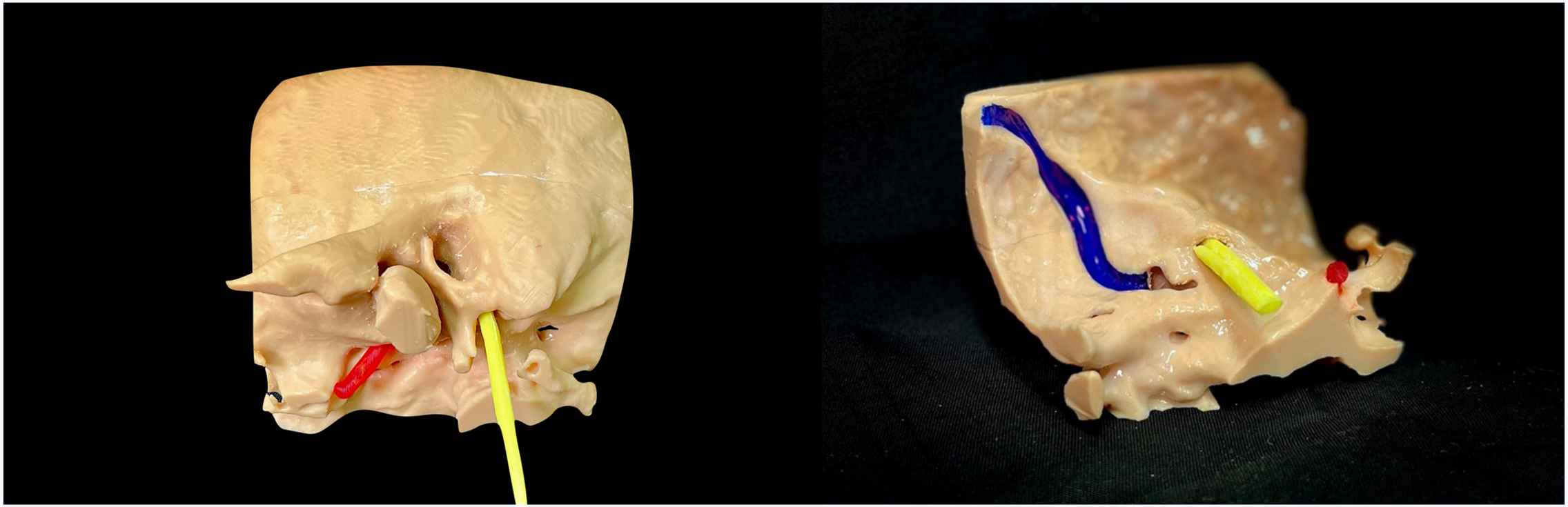




PETROUS BONE SIMULATOR

Petrosectomy simulator

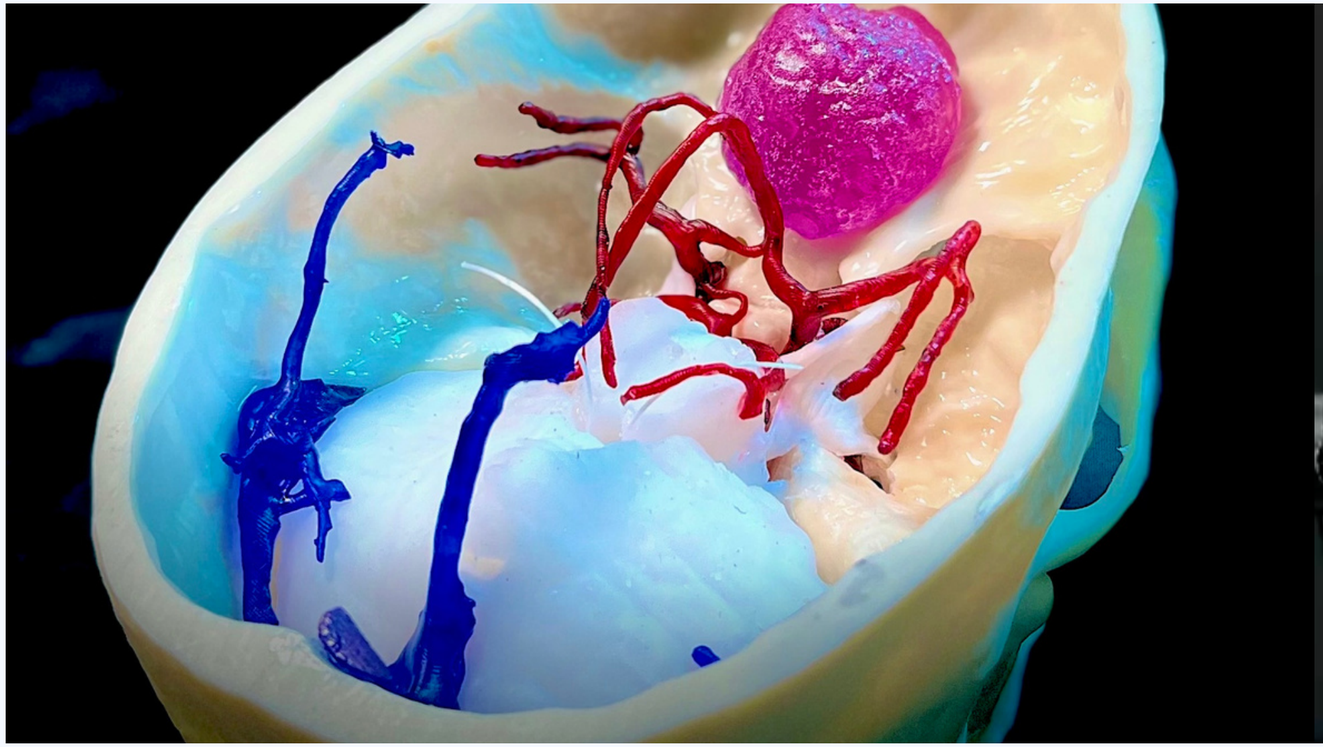
Human petrous bone. 1:1 scaled from a real human CT scan with similar drilling properties to the human bone.
It includes intrinsic anatomy with mastoid cells, antrum, labyrinth, facial nerve, internal acoustic meatus, cochlea, sigmoid sinus, presigmoid dura mater and internal carotid artery.



ENDONASAL ENDOSCOPIC SIMULATOR

Advanced endoscopic transphenoidal surgery simulator

Human skull with all the craniometric points, fissures and canals. 1:1 scaled from a real human CT scan with similar drilling properties to the human bone.
Includes skin, nasal mucosa, turbinates, septum, as well as a detailed intrasphenoidal anatomy.
The inner skull is covered with dura, and includes all cranial nerves, intracranial arteries as well as the brain, cerebellum and brainstem.
Pathology included: pituitary adenoma and planum sphenoidale meningioma extracted from real cases and including the DICOM images for the preoperative planning

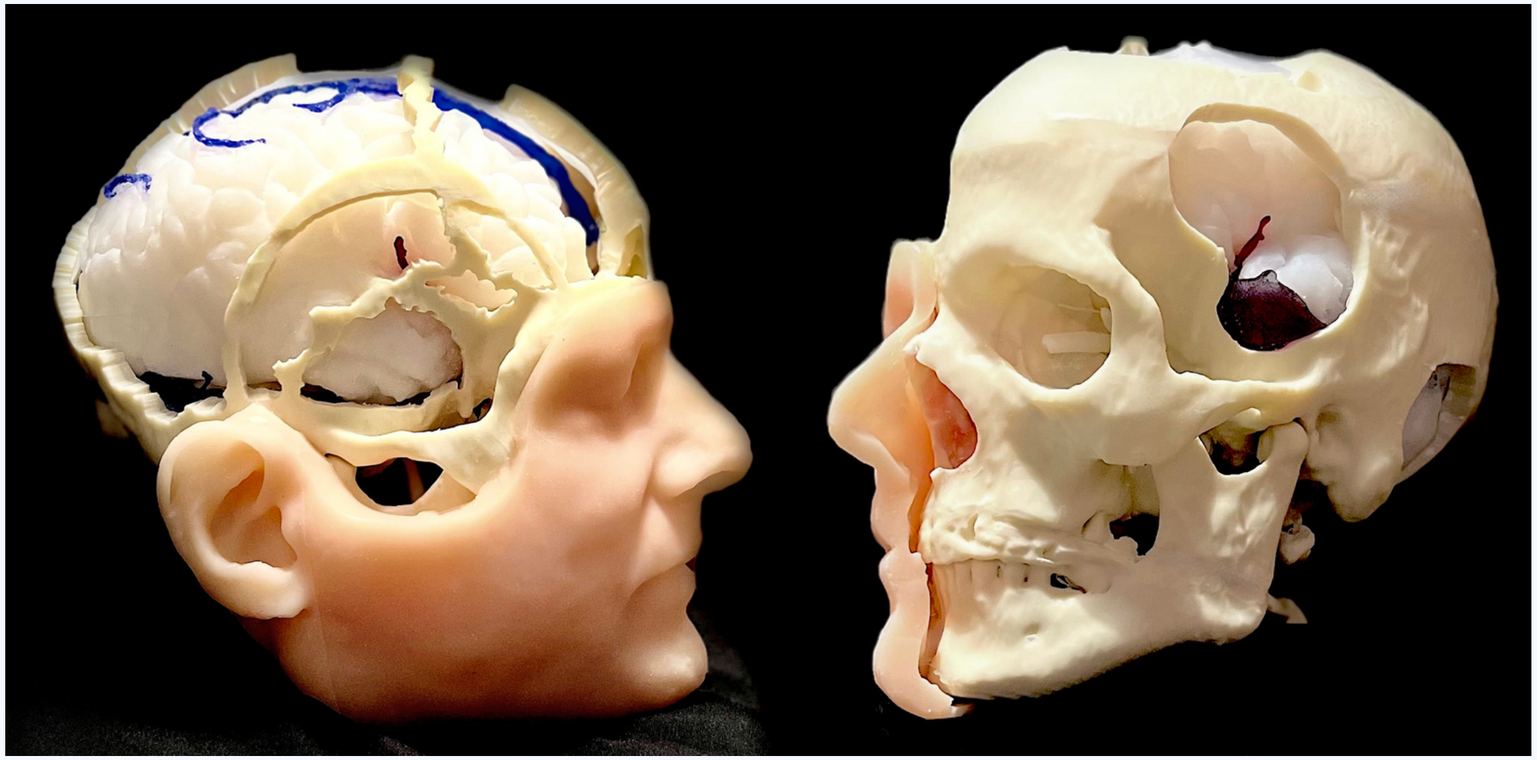


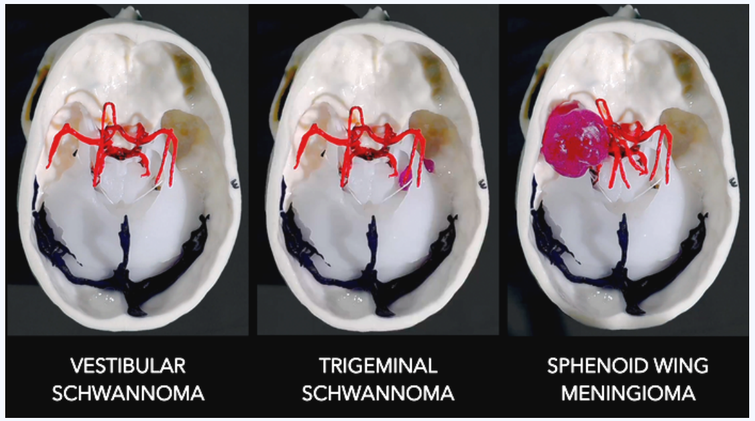
NEURO 3D TRAINER

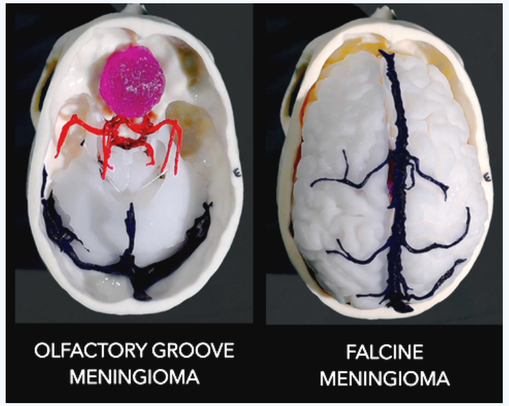
TRANSCRANIAL APPROACHES SIMULATOR

Advanced transcranial approaches simulator

Human skull with all the craniometric points, fissures and canals. 1:1 scaled from a real human CT scan on a with similar drilling properties to the human bone.
Includes the skin, intracranial dura, falx, tentorium, venous sinuses and all cranial nerves, arteries as well as the brain, cerebellum and brainstem.
Pathology: olfactory groove meningioma, sphenoid wing meningioma, parafalcine meningioma, trigeminal schwannoma, and a vestibular schwannoma. All extracted from real cases and including the DICOM images for the preoperative planning



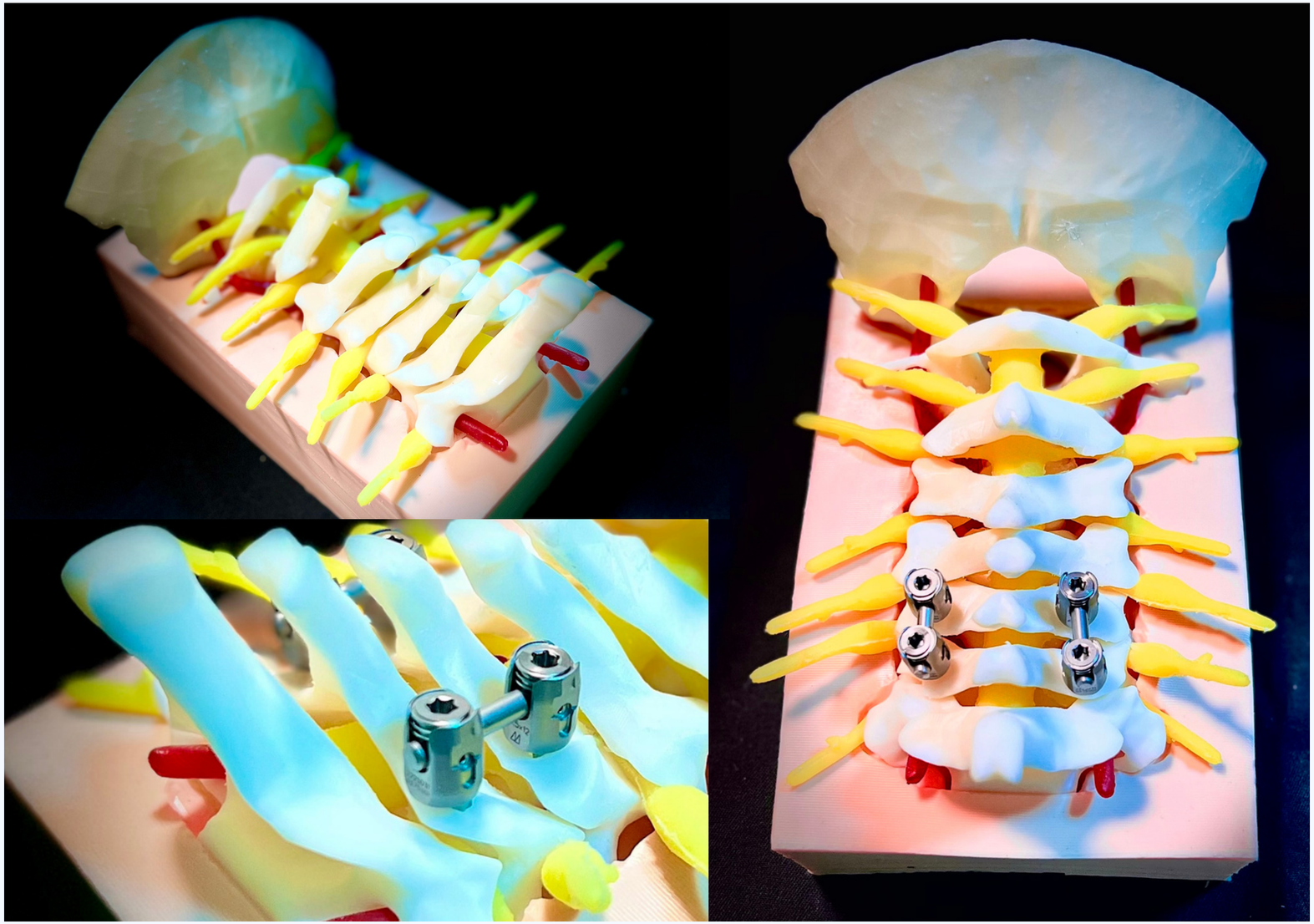




NEURO 3D TRAINER

SPINE NEUROSURGICAL SIMULATORS

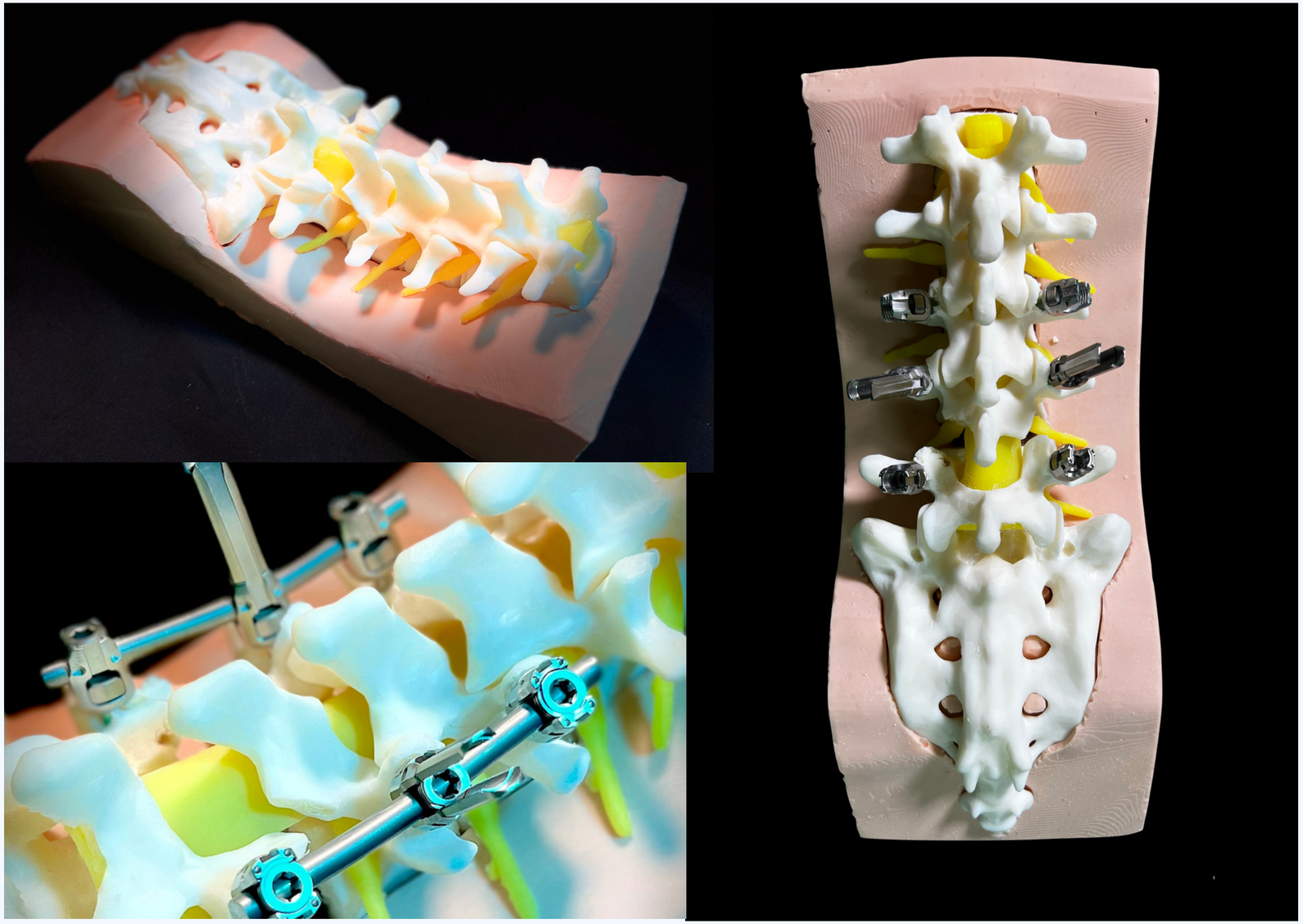
Precisely designed and manufactured real surgical scenarios based on most common spine surgical entities.
Training devices created to plan and practice laminectomies, discectomies, screws fixation, intervertebral cages... among other techniques.



CRANIOCERVICAL JUNCTION SIMULATOR

Advanced craniocervical junction anterior and posterior approaches simulator

Human 3D printed craniocervical junction with all anatomical details. 1:1 scaled from a real human CT scan with similar drilling properties to the human bone (cortical and cancellous).
Includes: occipital bone, cervical vertebrae, vertebral arteries, intervertebral discs, cord and nerves.
Pathology: disc herniation.
Surgical exercises: anterior cervical discectomy and fusion, corpectomy, posterior cervical discectomy, laminectomy, fusion with screws.



LUMBAR SPINE SIMULATOR

Advanced lumbosacral junction anterior and posterior approaches simulator

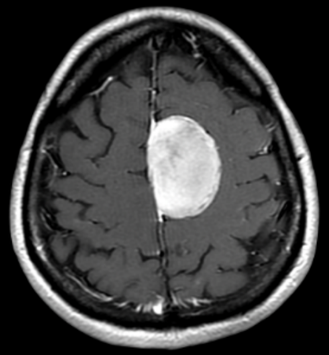
Human 3D printed lumbosacral junction with all anatomical details. 1:1 scaled from a real human CT scan with similar drilling properties to the human bone (cortical and cancellous).
Includes: lumbar vertebrae, sacrum, ligamentum flavum, intervertebral discs, dural sac and nerves.
Pathology: hypertrophic facet, lumbar disc herniation and L4-L5 spondylolisthesis.
Surgical exercises: anterior lumbar discectomy, anterior interbody fusión (ALIF), laminectomy, laminotomy, foraminotomy, lateral recess decompression, arthrodesis (transpedicular screws), posterior and transverse lateral interbody fusion (PLIF & TLIF).

NEUROTRAINER BOX

All the steps necessary to achieve the highest standards in Neurosurgical practice

PREOPERATIVE IMAGES ANALYSIS

DICOM FILES

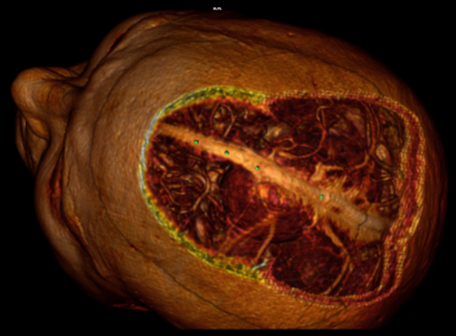


SURGICAL ANATOMY

ANATOMICAL DISSECTIONS

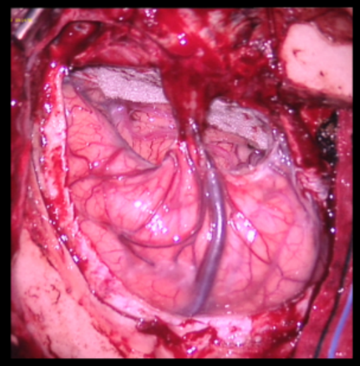
SURGICAL PLANNING

SURGICAL STEPS



STEP-BY-STEP

VIDEO GUIDANCE



PERFORMANCE

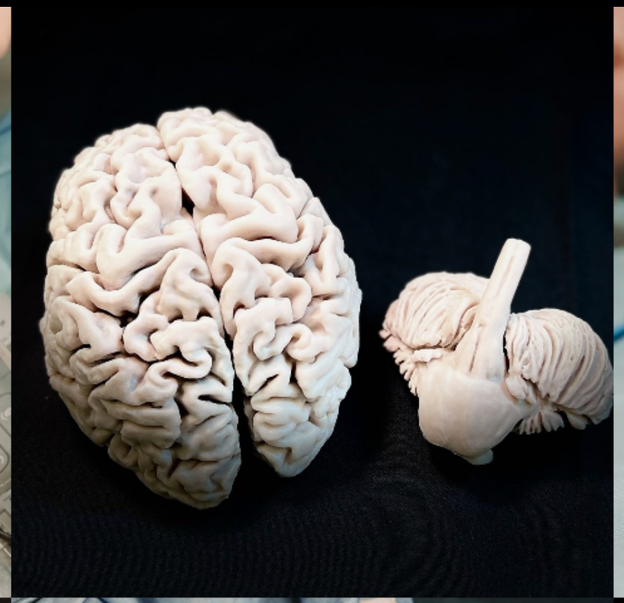
CASE SURGERY SIMULATORS

CUSTOMIZABLE SOLUTIONS

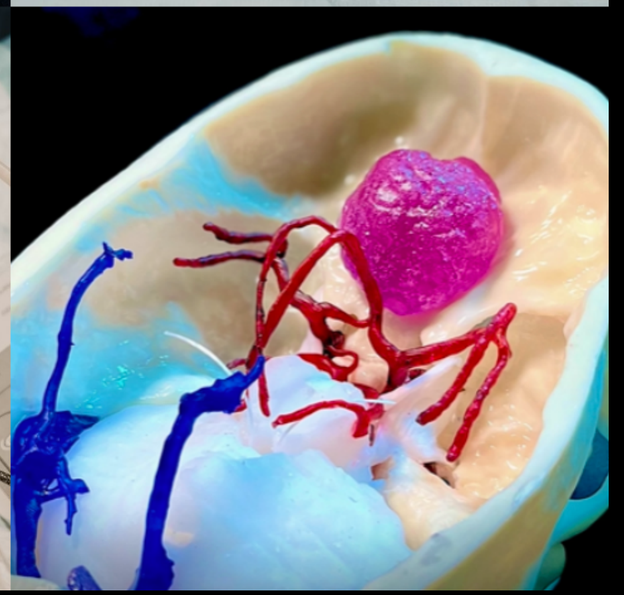
3DNeurotrainer works alongside each client to understand his needs. From the initial idea, through design, choice of materials and final production. Developing or using specific case studies and specific materials is our strength.

NEURO 3D TRAINER







NEURO 3D TRAINER

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