UpSurgeOn

Making surgical excellence
universally accessible

Cranial Series

Surgical Training Technologies for Cranial Neurosurgery

Interactive Brochure 2026

PterionalBox 4

Neurosurgical simulator for frontotemporal approaches to the anterior and middle cranial fossa equipped with mobile AR and navigation.

TemporalBox 5

Neurosurgical simulator for temporal approaches to the middle cranial fossa equipped with mobile AR and navigation.

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Tool for enabling compatibility of Hemispheric Approaches with head clamps and standard neuronavigation.

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PterionalBox

Frontotemporal approaches to the anterior and middle cranial fossa

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

What you can explore

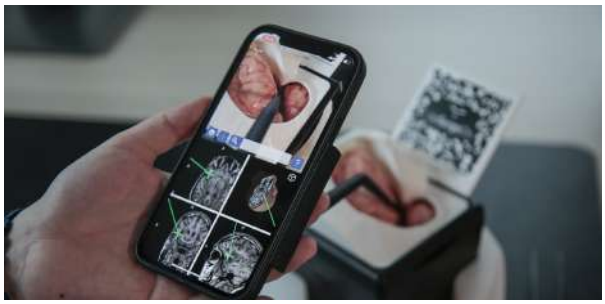
II: Optic Nerve
CA: Internal Carotid Artery
ACA: Anterior Cerebral Artery
A1: First segment of ACA
AcomA: Anterior Communicating Artery
MCA: Middle Cerebral Artery
III: Oculomotor Nerve
PComA:Posterior Communicating Artery
PCA: Posterior Cerebral Artery
Ophthalmic Artery
Pituitary Stalk
Perforating Arteries
Lamina Terminalis
Insula Heubner Artery (origin)
Optic Chiasm
Basilar Tip

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Mobile/Standard Navigation

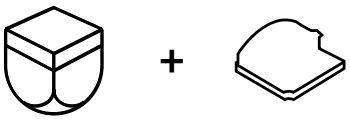
Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.



* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Pterional-Skull. Then replace it and start again.



Box
Reusable

\+

Skull
Disposable

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TemporalBox

Temporal approaches to the middle cranial fossa

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

What you can explore

- II: Optic Nerve
- ICA: Internal Carotid Artery
- ACA: Anterior Cerebral Artery
- AComA: Anterior Communicating Artery
- III: Oculomotor Nerve
- PComA:Posterior Communicating Artery
- PCA: Posterior Cerebral Artery
- Pituitary Stalk
- Perforating Arteries
- Optic Chiasm
- Basilar Tip
- Basal vein
- Internal Cerebral veins
- Vein of Galeno
- SCA: Superior Cerebellar Artery
- IV: Trochlear nerve
- Mesencephalus
- Tentorium
- Middle skull base fossa
- Temporal lobe

Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

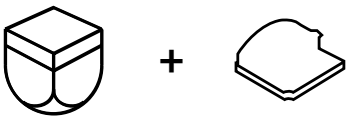
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Temporal Skull. Then replace it and start again.



Box *Reusable* + Skull *Disposable*

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RetrosigmoidBox

Retrosigmoid approaches to the posterior cranial fossa

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

What you can explore

- III: Oculomotor Nerves
- PComA:Posterior Communicating Artery
- PCA: Posterior Cerebral Artery
- Pituitary Stalk
- Perforating Arteries
- Basilar artery
- Vertebral artery
- SCA: Superior Cerebellar Artery
- AICA: Anterior Inferior Cerebellar Artery
- PICA: Posterior Inferior Cerebellar Artery
- Mammillary bodies
- IV: Trochlear nerve
- V: Trigeminal nerve
- VI: Abducens nerve
- VII/VIII: Facial/vestibular nerves
- IX-X-XI: Mixed cranial nerves
- XII: Hypoglossal nerve
- Mesencephalus
- Pons
- Medulla oblongata
- Tentorium
- Posterior skull base fossa

Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

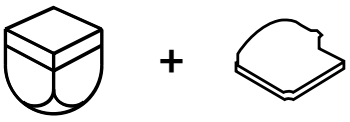
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Retrosigmoid Skull. Then replace it and start again.



Box
Reusable

\+

Skull
Disposable

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InterhemisphericBox

Interhemispheric approaches to the midline

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

What you can explore

- Mid frontal hemisphere
- Mid parietal hemisphere
- Third and fourth segment of the anterior cerebral artery (ACA)
- Corpus callosum

Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

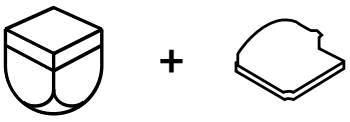
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Interhemispheric Skull. Then replace it and start again.



Box *Reusable* + Skull *Disposable*

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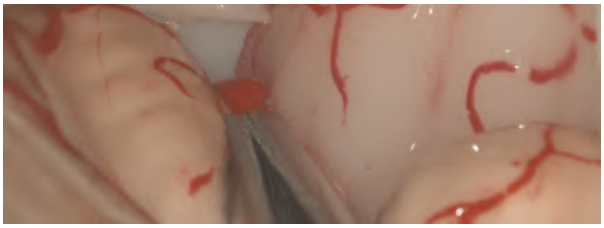
SuboccipitalBox

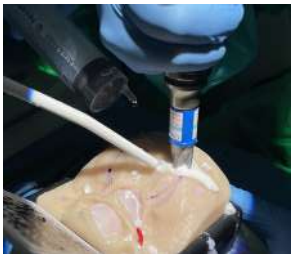
Suboccipital approaches to the craniocervical junction

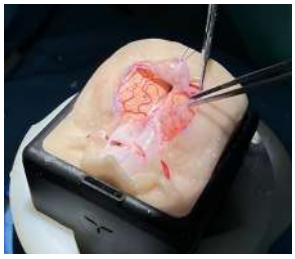
- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

What you can explore

- Basilar artery
- Vertebral artery
- SCA: Superior Cerebellar Artery
- AICA: Anterior Inferior Cerebellar Artery
- PICA: Posterior Inferior Cerebellar Artery
- Mammillary bodies
- V: Trigeminal nerve
- VII/VIII: Facial/vestibular nerves
- IX-X-XI: Mixed cranial nerves
- XII: Hypoglossal nerve
- Mesencephalus
- Pons
- Medulla oblongata
- Posterior skull base fossa







Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

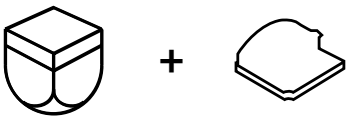
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Suboccipital Skull. Then replace it and start again.



Box
Reusable

\+

Skull
Disposable

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BrainTumorBox

Bleeding 5-ALA-enhanced Glioblastoma for US-guided resection

- Augmented Reality App
- Mobile/Standard Navigation
- Ultrasound
- Disposable Skulls / Cartridges

What you can do

Learn how to handle microsurgical instruments
Learn how to perform perform a white matter dissection
Learn how to perform a microsurgical resection under the microscope/exoscope
Learn how to perform an ultrasound guided resection
Learn how to manage intraoperative bleeding
Resect and remove a fluorescence-guided (5-ALA) intraparenchymal glioblastoma with epicenter in the frontal white matter

Fluorescence: 5ALA

With the BrainTumorBox you can resect a intraparenchymal glioblastoma guided by 5-ALA fluorescence and Ultrasounds.

Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI.

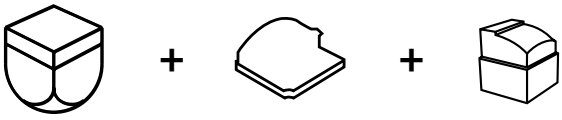
* Included with the Box
** NavigationFrame is sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Cartridges and Skulls

Perform a craniotomy and remove the tumor. Then replace the cartridge and the skull and start again.



Box *Reusable* + Skull *Disposable* + Cartridges *Disposable*

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ICHBox

Intracerebral Hemorrhage

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls / Cartridges

What you can do

Learn how to handle microsurgical instruments

Learn how to perform perform an Intracerebral Hemorrhage surgery

Learn how to perform a microsurgical procedure under the microscope/exoscope

Mobile/Standard Navigation

Use the Navigation Pen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI.

* Included with the Box
** NavigationFrame is sold separately. Check the compatibility with your navigation technology.

Disposable Cartridges and Skulls

Box *Reusable* + Skull *Disposable* + Cartridges *Disposable*

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AneurysmBox

Aneurysm clipping

- Augmented Reality App
- Mobile/Standard Navigation
- Disposable Skulls

AneurysmBox is a PterionalBox (p. 3) with the addiction of 5 aneurysms.

What you can do

II: Optic Nerve
CA: Internal Carotid Artery
ACA: Anterior Cerebral Artery
A1: First segment of ACA
AcomA: Anterior Communicating Artery
MCA: Middle Cerebral Artery
III: Oculomotor Nerve
PComA:Posterior Communicating Artery
PCA: Posterior Cerebral Artery
Ophthalmic Artery
Pituitary Stalk
Perforating Arteries
Lamina Terminalis
Insula Heubner Artery (origin)
Optic Chiasm
Basilar Tip

Aneurysm Cases

Case 1: Middle Cerebral Artery;
Case 2: Basilar Tip;
Case 3: Carotid Bifurcation;
Case 4: Anterior Communication Artery;
Case 5: Posterior Communication Artery;

Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

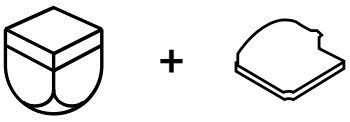
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Pterional-Skull. Then replace it and start again.



Box *Reusable* + Skull *Disposable*

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FlourescentBox

5-ALA, Fluorescein and ICG fluorescence

Augmented Reality App
Mobile/Standard Navigation
Disposable Skulls

FluorescentBox is an AneurysmBox (p. 9) with the addiction of 5-ALA, Fluorescein, ICG and fluorescence.

What you can explore

FluorescentBox is designed to simulate 3 different fluorescences:

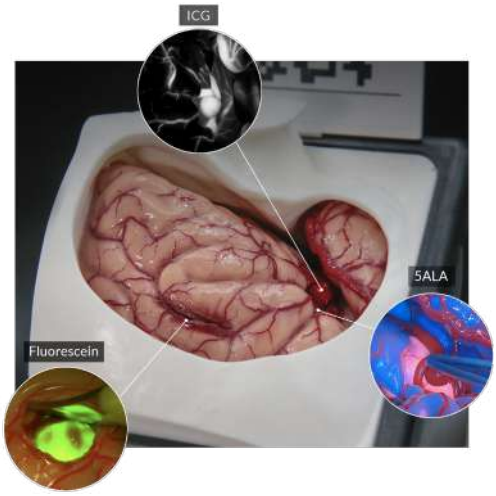
FLUORESCEIN, 5ALA and ICG

Fluorescein: 1 deep frontal tumor glioma

5ALA: 1 superficial insular glioma

ICG: 5 fluorescent (ICG) aneurysms in different locations (Carotid bifurcation, MCA, AComA, PComA, Basilar tip)

With the FluorescentBox you can explore all the anatomy of the PterionalBox and all 5 aneurysmsof the AneurysmBox.



Mobile/Standard Navigation

Use the NavigationPen* in conjunction with the Neurosurgery App for mobile neuronavigation. Alternatively, use the NavigationFrame** along with the included MRI or the NavigationHead** with the included MRI for standard neuronavigation.

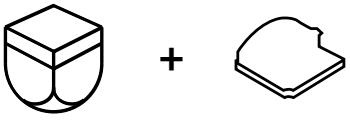
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Pterional-Skull. Then replace it and start again.



Box
Reusable

\+

Skull
Disposable

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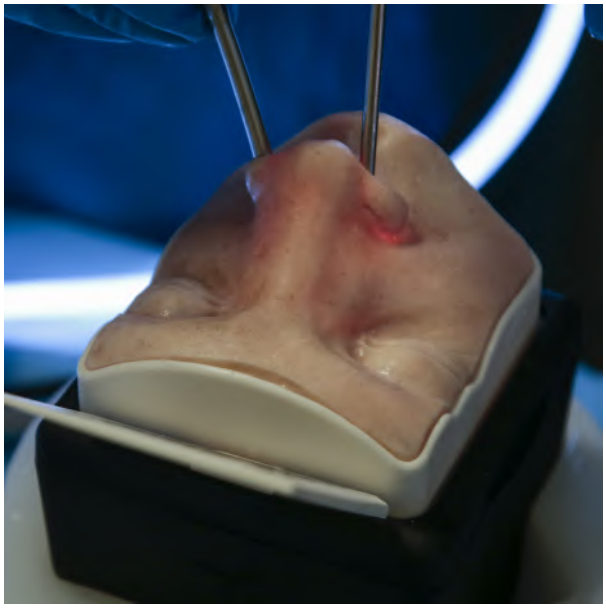
TNSBox

Endoscopic Transsphenoidal approaches to a pituitary adenoma

- Mobile endoscope and instruments included
- Augmented Reality App
- Disposable Cavities

What you can do

- Septal Cartilage
- Vomer
- Mucosa
- Perpendicular plate of Ethmoid Bone
- Sphenoidal Crest
- Nasal Cavity
- Inferior Choana
- Middle Choana
- Superior Choana
- Sphenoid Sinus
- Pituitary Tumor
- Polyposis



Augmented Reality App

Get the Neurosurgery App to explore 3D models, learn the procedure with Augmented Reality, navigate and much more.

Disposable Cavities

Prepare the nasal cavities and perform an adenoma resection tumor. Then replace the cavity and start again.

TNSBox is available with two different Disposable Cavities:

- Disposable Cavity with Pituitary Tumor
- Disposable Cavity with Pituitary Tumor and Polyposis

Box
Reusable

Cavities
Disposable

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Third Ventricle EndoscopicBox

Endoscopic Third Ventriculostomy (ETV)

What you can do

Freely navigate throughout the third and lateral ventricles featuring high quality materials and anatomical fidelity.

How it is composed

Modularity

The Third Ventricle EndoscopicBox includes a reusable station that replicates a patient's head and anatomically reproduces the ventricular system, focusing on the lateral ventricle.

A modular sled is integrated into the station, allowing the insertion of single-use cartridges, each representing a specific surgical or pathological scenario.

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NavigationHead
Pterional Approaches

Head clamp and standard neuronavigation of PterionalBox, AneurysmBox and

What you can explore

Neuronavigation is a technology that helps neurosurgeons design the best trajectory to an intracranial pathology. It allows you to place your scenario* inside of it, fix the head with a head holder and carry out Neuronavigation.

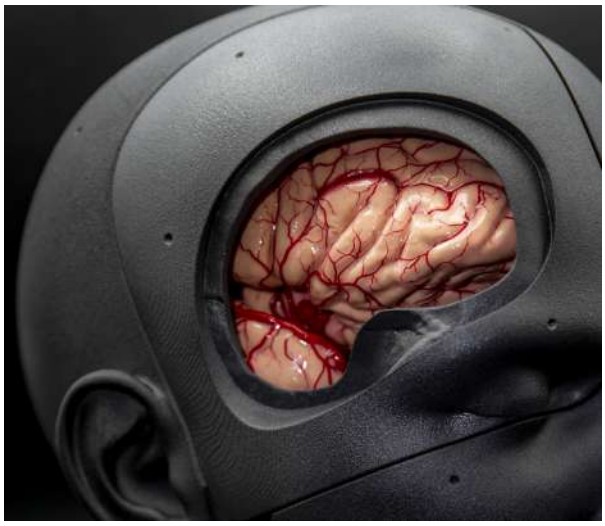
MRI with different pathologies included (depending on the scenario)

Compatible with any neuronavigation system

* The pterional approaches are sold separately.

Compatible Boxes

NavigationHead is compatible with all the Pterional Approaches:
PterionalBox
AneurysmBox
FluorescentBox



Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using the Pterional-Skull. Then replace it and start again.

Box
Reusable

\+

Skull
Disposable

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NavigationHead
Hemispheric Approaches

All-in-One Training and Showcasing Technology for Navigated Oncological, Vascular, and Functional Neurosurgery

What you can explore

Neuronavigation is a technology that helps neurosurgeons design the best trajectory to an intracranial pathology. This UpSurgeOn Box extension and its MRI are changing the way education works!

MRI with different pathologies included (depending on the scenario)

Compatible with any neuronavigation system

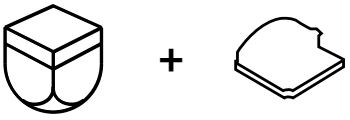
* The hemispheric approaches are sold separately.

Compatible Scenarios

NavigationHead is compatible with all Hemispheric Approaches:
BrainTumor Scenario
ICH Scenario
Interhemispheric Scenario
Stereotactic Hemispheric Scenario

Disposable Skulls

Perform craniotomies, dural openings, and reconstructions using disposable Interhemispheric skulls.



Box
Reusable

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Skull
Disposable

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Making surgical excellence universally accessible

Follow UpSurgeOn

UpSurgeOn is a hi-tech company specialized in psychomotor skill augmentation in microsurgeries through the use of bleeding-edge virtual and physical simulation technologies.

Go to website
www.upsurgeon.com

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