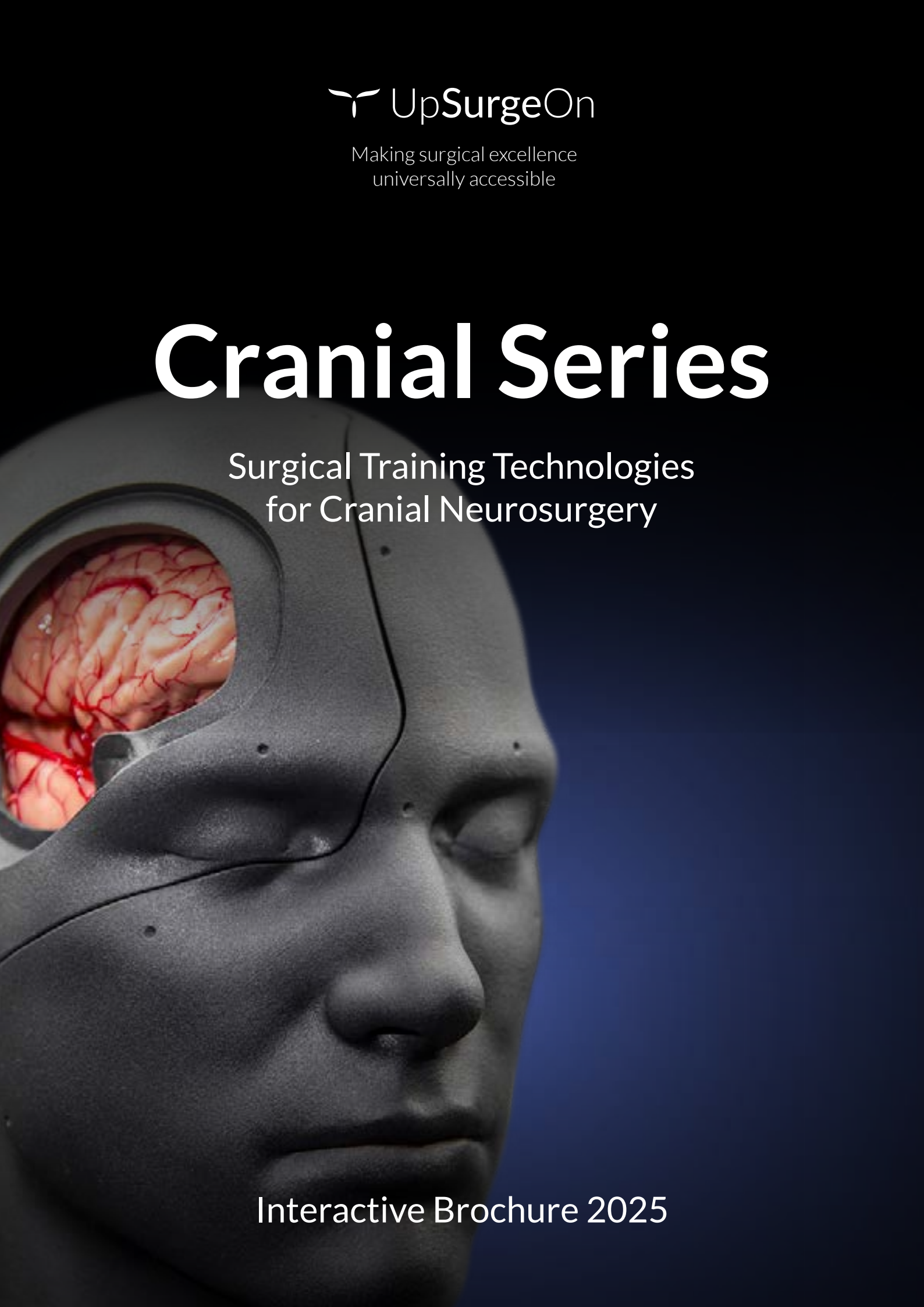
UpSurgeOn

Making surgical excellence
universally accessible

Cranial Series

Surgical Training Technologies for Cranial Neurosurgery



Interactive Brochure 2025

Tap here

PterionalBox 3

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

TemporalBox 4

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

RetrosigmoidBox 5

Neurosurgical simulator for retrosigmoid approaches to the posterior cranial fossa equipped with mobile AR and navigation.

InterhemisphericBox 6

Neurosurgical simulator for interhemispheric approaches to the midline equipped with mobile AR and navigation.

SuboccipitalBox 7

Neurosurgical simulator for suboccipital approaches to the craniocervical junction equipped with mobile AR and navigation.

BrainTumorBox 8

Neurosurgical simulator of glioblastoma resection equipped with 5-ALA, active bleeding, ultrasound compatibility, mobile AR and navigation.

ICHBox 10

Neurosurgical simulator of Intracerebral Hemorrhage compatible with mobile AR and navigation.

AneurysmBox 11

PterionalBox (see above) enhanced with 5 clippable aneurysms.

FluorescentBox 12

AneurysmBox (see above) enhanced with 5-ALA, Fluorescein and ICG fluorescence.

TNS Box 13

Neurosurgical simulator for endoscopic approaches to a pituitary adenoma, equipped with mobile AR.

Tap here

Mycro 14

Training System for microvascular Anastomosis and Microsutures.

NavigationHead 15
Pterional Approaches

Tool for enabling compatibility of PterionalBox, AneurysmBox and FluorescentBox with head clamps and standard neuronavigation.

NavigationHead 16
Hemispheric Approaches

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

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.

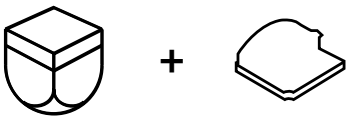
Mobile/Standard Navigation

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

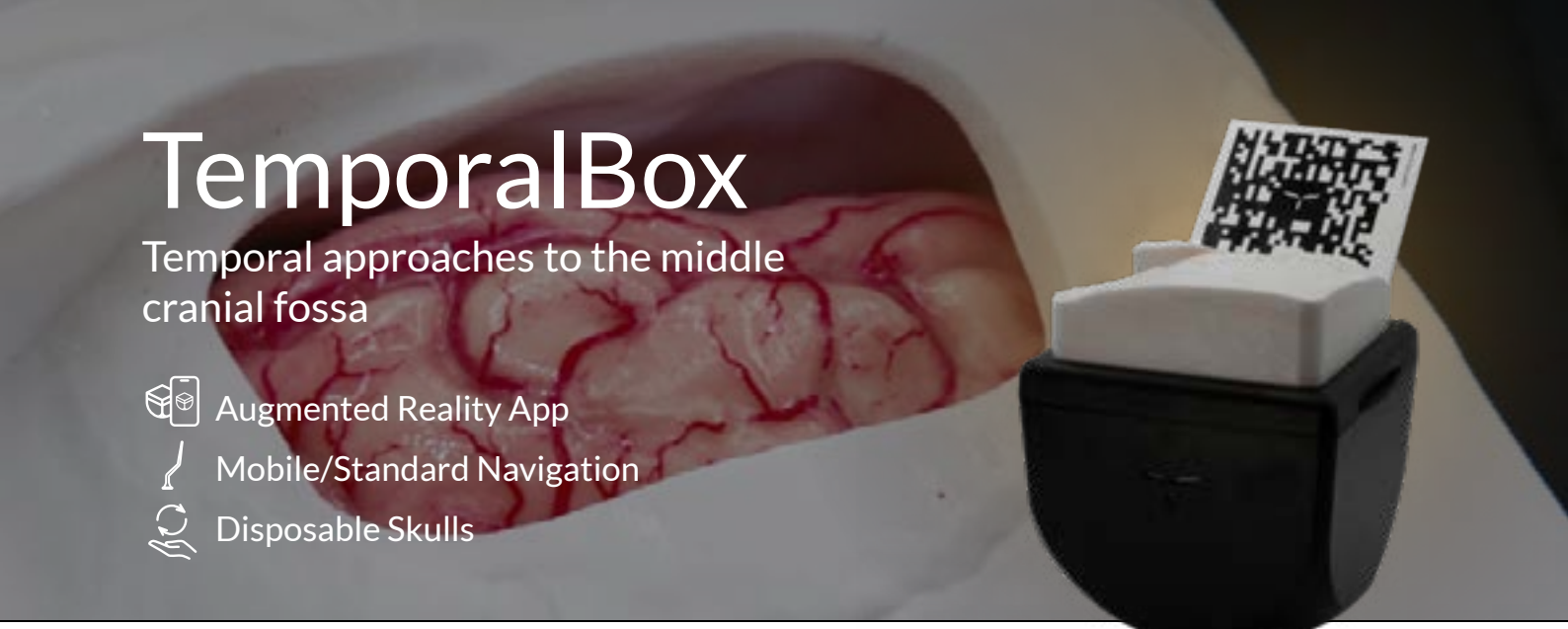
Perform craniotomies, dural openings, and reconstructions using the Pterional-Skull. Then replace it and start again.



Box
Reusable

\+

Skull
Disposable



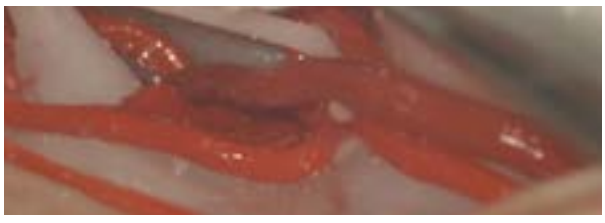
TemporalBox

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.

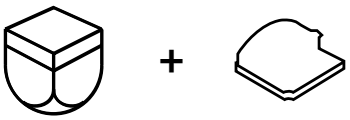
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

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

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.

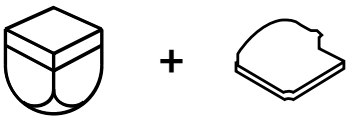
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

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

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

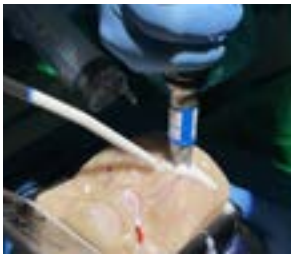
SuboccipitalBox

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.

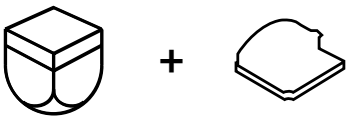
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

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

BrainTumorBox

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

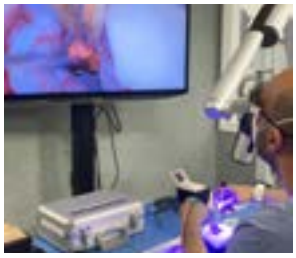
- Augmented Reality App
- Mobile/Standard Navigation
- Ultrasound
- Disposable Skulls / Cartridges

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.

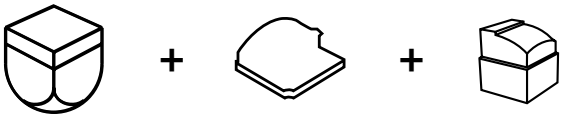
* Included with the Box
** NavigationFrame is sold separately. Check the compatibility with your navigation technology.

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.



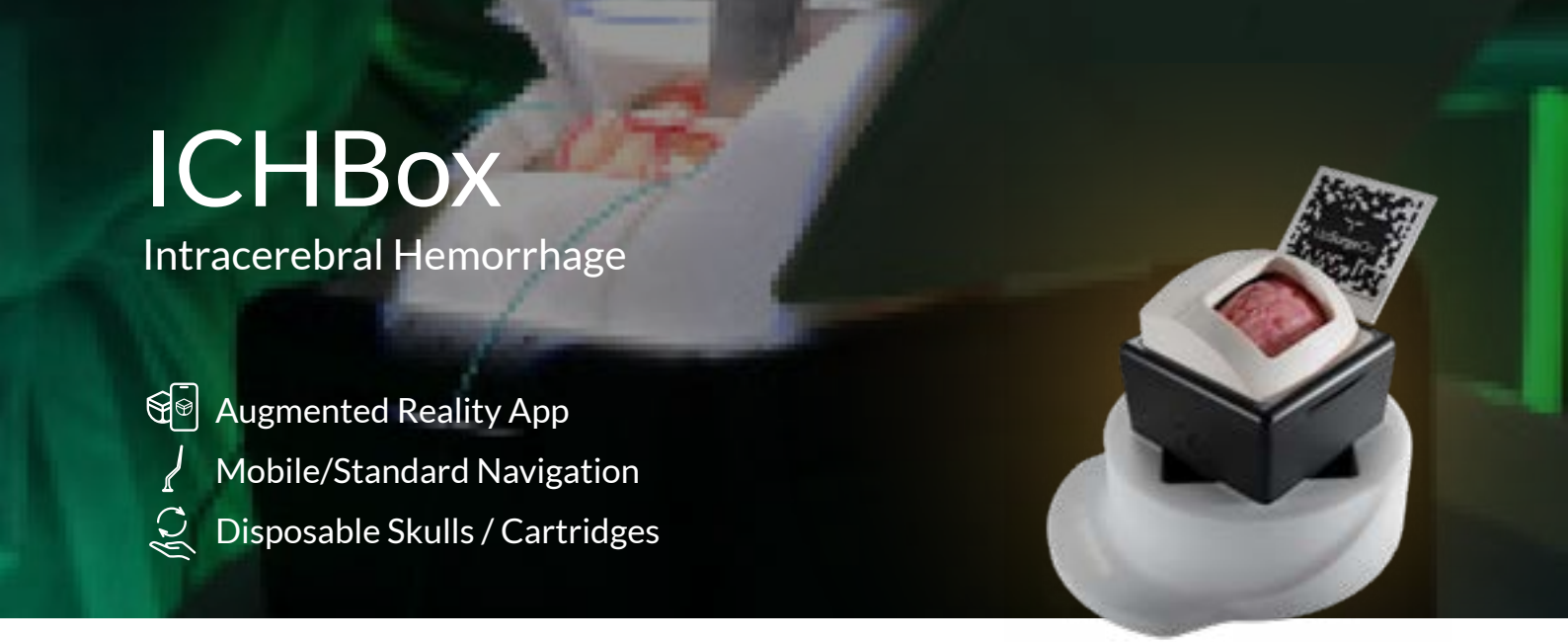
Box *Reusable*

Skull *Disposable*

Cartridges *Disposable*

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*

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.

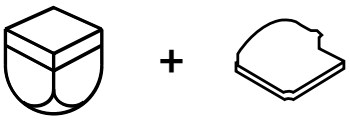
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

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

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:

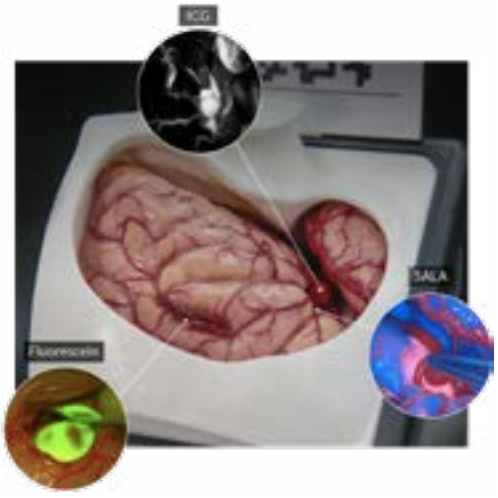
FLUORESCEIN, 5ALA and ICG

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.

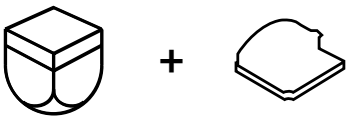
* Included with the Box
** NavigationFrame and NavigationHead are sold separately. Check the compatibility with your navigation technology.

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

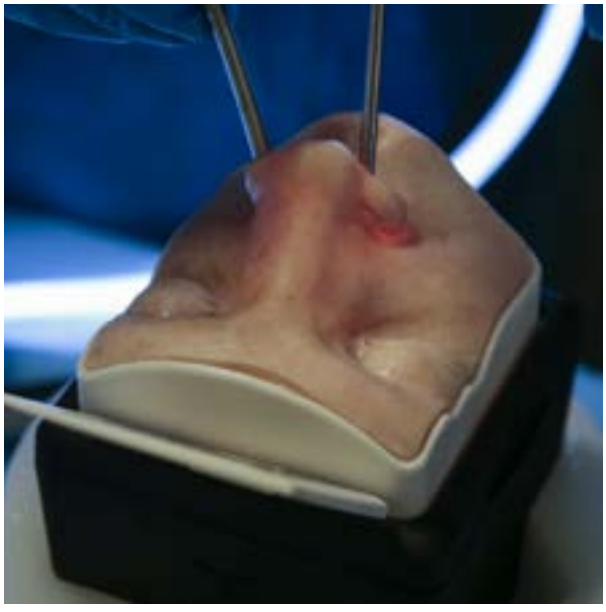
TNSBox

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*

Mycro

Training System for microvascular Anastomosis and Microsutures

Augmented Reality App

Disposable Vessels

What you can do

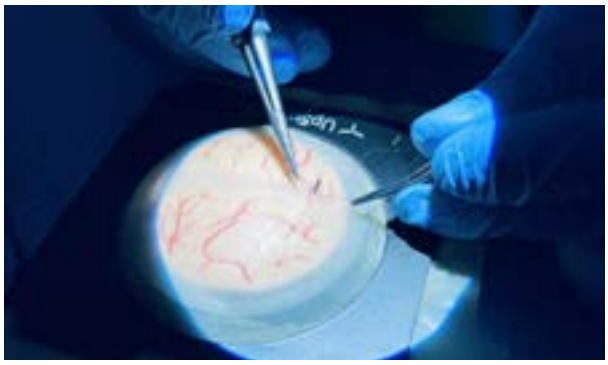
Learn how to handle microsurgical instruments

Learn how to perform a watertight anastomosis on 1 mm and 2 mm vessels

Learn how to perform a watertight dural microsuture

Integrate Mycro with the Box suite to simulate deep and inclined surgical fields

Mycro has disposable vessels for bypass and membranes for dural microsutures.

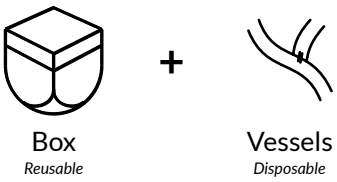


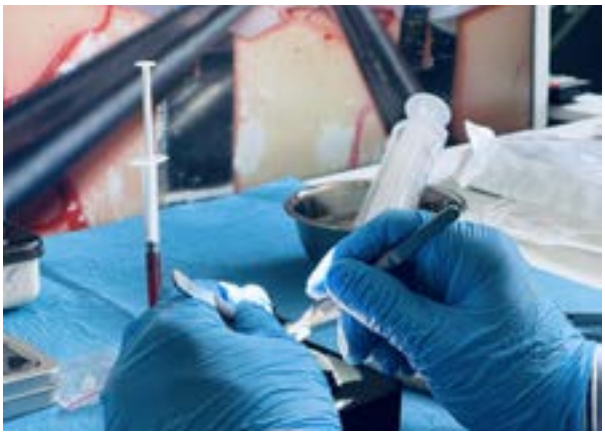
Augmented Reality App

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

Disposable Vessels

Thanks to the disposable vessels, available in 1mm and 2mm diameter, unlimited practice is possible. The vessels feature the adventitia and blood flow.





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

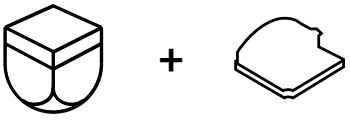
* The pterional approaches are sold separately.

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

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!

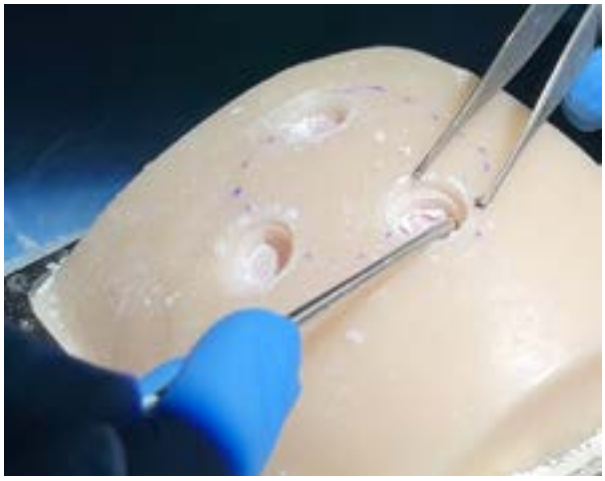
MRI with different pathologies included (depending on the scenario)

Compatible with any neuronavigation system

* The hemispheric approaches are sold separately.

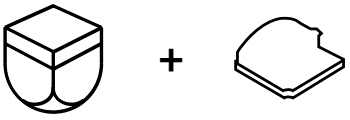
Compatible Scenarios

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

\+

Skull
Disposable

UpSurgeOn

Reach out to us

If you wish to acquire further information, please contact us at the following contact details according to your country of origin.

Europe
excluding UK & Ireland

UpSurgeOn
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Follow UpSurgeOn

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

Go to website
www.upsurgeon.com