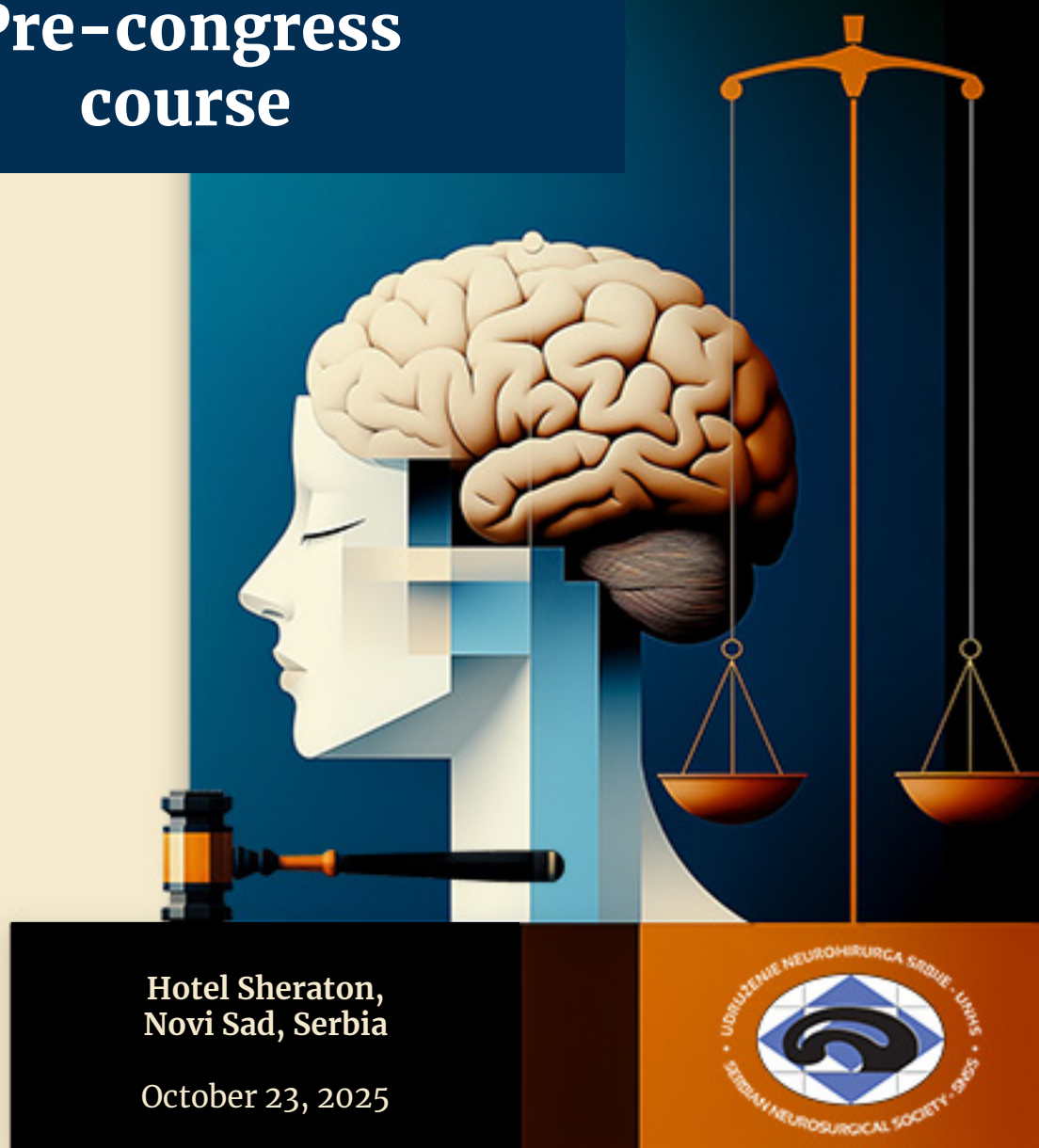


Ethico-legal aspects of neurosurgery in the 21st century: Challenges and opportunities

Pre-congress course



Hotel Sheraton,
Novi Sad, Serbia

October 23, 2025



Host: Clinic for Neurosurgery, University Clinical Center of Vojvodina
Joint venture with the



THE EUROPEAN ASSOCIATION
OF NEUROSURGICAL SOCIETIES

EANS
Ethico-Legal Committee



Turkish
Neurosurgical
Society



Southeast Europe
Neurosurgical Society
- SeENS



102nd Anniversary of Neurosurgery in Serbia
63rd Anniversary of the Clinic for Neurosurgery, University Clinical Center of Vojvodina



ORBEYE Workshop – Neurosurgical Focus (WLI, NBI, IR/ICG)

Objectives:

- **Technical:** system setup, ergonomics, image control in WLI/NBI/IR, recording and exporting.
- **Clinical:** use of NBI in distinguishing vascularized tissue, IR/ICG in neurovascular procedures.
- Initial skills self-assessment (skills self-rating).

Program Schedule

09:00–09:15 (15 min) – Welcome and Objectives

Content:

- Opening remarks by Prof. Dr. Rasulić and Prof. Dr. Đilvesi.
- Introduction of instructors (Doc. Dr. Golubović) and participants, team assignments.
- Logistics and safety protocols for working with ORBEYE.
- Review of the daily agenda and expectations.

09:15–09:45 (30 min) – Lecture: ORBEYE in Neurosurgery

Content:

- System components: 4K 3D camera, LED illumination, monitors, foot switch, UPS, drape set.
- Working distance (220–550 mm) – supratentorial, infratentorial, spinal approaches.
- Ergonomics: monitor height, body posture, instrument layout, team positioning.
- Safety guidelines and equipment protection.

09:45–10:15 (30 min) – Live Demonstration: Complete Set-up

Content:

- System start-up and monitor connection.
- White balance adjustment.
- Focus, zoom, and mode selection (WLI, NBI, IR).
- Draping sequence and maintenance of sterility.
- Camera positioning for the neurosurgical field.



10:15–10:30 (15 min) – Break

10:30–11:30 (60 min) – Hands-on: Setup with Image Control (DIY tasks)

Objective: Master independent setup, camera positioning, and work in all modes.

Materials:

- White paper/card (for white balance).
- Boxes/stands (for height adjustment).
- Transparent foil/rubber bands (for draping).

Stations (15 min rotations):

1. Quick-start with White Balance – from system off to ready WLI display.
2. Camera arm positioning – focusing on a 5×5 cm field from different angles without loss of sharpness.
3. Sterile draping – correct drape placement without touching the optics.
4. Recording and Export – record and export video + snapshot.

OSATS criteria (0–5):

- Ergonomics and camera stability.
- Focus and image accuracy.
- Sterile technique.
- Workflow efficiency.
- Accuracy of export.

11:30–12:00 (30 min) – Lecture: WLI, NBI and IR in Neurosurgery

Content:

- WLI: optimal illumination, use in standard visualization.
- NBI: highlighting vascular structures – gliomas, meningiomas, AVM borders.
- IR/ICG: confirming flow in aneurysms, bypass grafts, perfusion of resection cavities.
- Tips for recording and documentation in special modes.



12:00–13:00 (60 min) – Hands-on: Microneuro Skills + Chicken Wings

Objective: Develop fine motor skills and practice in narrow/deep fields.

Materials:

- Chicken wings – vessel dissection (realistic tissue feel).
- Rubber/plastic tubes Ø 3–5 mm (microanastomosis).
- Suturing box (box with openings).

Tasks:

- Microanastomosis – connect a cut tube (3+3 stitches).
- Chicken wing dissection – atraumatic vessel separation under WLI and NBI.
- Deep field suturing – suturing in a narrow opening.

OSATS criteria (0–5):

- Preservation of tissue/model.
- Stitch precision and neatness.
- Use of special mode.
- Hand stability and ergonomics.
- Time efficiency.

13:00–13:45 (45 min) – Lunch Break

13:45–15:00 (75 min) – Hands-on: Neurosurgery

Objective: Combine technical skills, special modes, and team communication.

Materials:

- Aneurysm model: balloon from a glove filled with water, wrapped with tape.
- Spinal decompression: layers of cardboard and sponge.
- Tumor model: styrofoam or plasticine with “vascular” paper strips.

Tasks:

- Aneurysm with IR simulation: clip placement without balloon rupture + IR visualization.
- Spinal decompression: remove “bone” without damaging “dura.”
- Tumor resection with NBI: remove tumor while preserving vascular structures.

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OSATS criteria (0-5):

- Task accuracy.
- Special mode control.
- Protection of “critical structures.”
- Movement efficiency.
- Team communication.

15:00–15:15 (15 min) – Break

15:15–15:45 (30 min) – Mini-case Session: Best Practice in Neurosurgery

- Video heads-up surgeries (tumors, aneurysms, spine).
- Discussion of literature and clinical practice.
- QCA (questions, comments, answers) with instructors.

15:45–16:00 (15 min) – Summary and Evaluation

- Post-test on WLI/NBI/IR and workflow.
- OSATS scores from all stations.
- Participant feedback.
- Certificates and awards for best performance.