



REGULATIONS

About the International Student Conference/Olympiad in Neurosurgery

1. General regulations

1.1. These regulations determine the procedure for organizing and holding the International Student Conference/Olympiad in Neurosurgery and the conditions for participation in it.

2. Goals and objectives

2.1. Determination and identification of gifted students to form a reserve of the Department of Neurosurgery of Moscow State Medical University named after Sechenov and the Institute of Neurosurgery of the People's Friendship University of Russia on the basis of the Federal Center for Neurosurgery in Tyumen.

2.2. Development of leadership qualities of students.

2.3. Identifying the intellectual potential of students.

2.4. Development of individual communicative qualities of a person, intellectual literacy, intelligence, speed of reaction and efficiency in decision making.

3. Organizers

Department of Neurosurgery, Federal State Autonomous Educational Institution of Higher Education, First Moscow State Medical University named after Sechenov
Ministry of Health of Russia

Research Institute of Neurosurgery RUDN

FSBI "Federal Center of Neurosurgery"

Regional public organization "Association of Neurosurgeons of the Tyumen Region".

4. Time and place

4.1. Acceptance of competitive works (stage I) – until 04/18/2024

4.2. Online conference - Stage I (on the Zoom platform) - 04/20/2024

4.3. Full-time, stage II - 05/04/2024

5. Requirements for participants

5.1 Students of Russian and foreign medical universities of medical and pediatric faculties are allowed to participate in the Olympiad ,

5.2. To register and confirm participation, you must send your resume with the chosen topic to [olimpfcn @ gmail . com](mailto:olimpfcn@gmail.com)

After registration, the organizers will confirm your participation in the Olympiad by mail specified in the registration form.

6. Procedure

6.1. The Olympiad will be held in 2 stages:

Stage I – “ Video competition ” - correspondence format

The competition work is a presentation of a clinical case or scientific work, or a literature review on a selected topic, voiced in English or Russian.

- ✓ *Pediatric neurosurgery*
- ✓ *Vascular neurosurgery*
- ✓ *Neuro-oncology*
- ✓ *Spinal neurosurgery*
- ✓ *Functional neurosurgery*

Criteria for competition work:

- ✓ Relevance
- ✓ Anatomical validity
- ✓ Scientific novelty
- ✓ Statistics
- ✓ Validity of the results
- ✓ Validity of conclusions
- ✓ Time limit: 10 minutes.

Maximum score in the competition:

Scientific work (in addition to a competent presentation of the topic and answering questions on it, the contribution made by the subject is also assessed) -30 points;

Presentation of a clinical case - 20 points;

Literature review - 10 points

Stage II – “Theoretical stage, practical skills” - full-time format

The theoretical stage includes:

Neuroanatomy Questions;

Questions on topical diagnostics;

Clinical task in neurosurgery from the topics listed above;

Translation of part of an article from a neurosurgical journal.

The maximum score in the competition is 30 points.

Practical skills include:

✓ Microanastomosis on chicken wings under a microscope

First task: Microsurgical vascular anastomosis

In this task, participants are asked to perform a microvascular anastomosis. The type of anastomosis will be decided immediately before the competition by drawing lots. Each participant must apply exactly the anastomosis that was determined by drawing lots.

1. End to end (regular)
2. End to Side (Fish-mouth)
3. Side to side

Material: Refrigerated chicken wing. Suture material: Prolen or Ethicon 9/0.

Provided tools and equipment:

1. OPMI Pico techno , Carl Zeiss (Germany) - microscope with table mount
2. Chicken wing stand
3. 2 microsurgical forceps
4. 1 microsurgical scissors

5. Insulin syringe
6. Bottle of dye
7. Microvascular clips with clipper
8. Glass of water
9. Substrate for the vessel.

*You cannot use your own suture material.

* You are allowed to use your own microsurgical instruments.

Before forming the anastomosis, it is necessary to isolate the neurovascular bundle. For end-to-end anastomosis, perform dissection of the brachial artery, cross it at this location and proceed with the microsurgical technique. For end-to-side type, perform dissection of the brachial and radial arteries and form an anastomosis between them. For the side-to-side type, dissect the brachial and radial arteries, compare the central segments of the vessels and form an anastomosis.

* The choice of suture method (interrupted or continuous) remains with the participant.

Competition evaluation criteria :

1) Absence of stenosis:

- no stenosis - 4 points;
- presence of stenosis - 0 points.

* Checking for the presence of stenosis is carried out by inserting a probe into the vessel.

2) Tightness (absence of jet flow of blood in the anastomotic area):

- absence of bleeding in the anastomosis area - 5 points;
- bleeding from one place - 3 points;
- bleeding from 2 places - 1 point;
- bleeding from more than 2 places - 0 points.

* Checking the tightness is carried out by introducing a tinted solution with the presence of distal clamping.

3) Aesthetics:

- equal distance between stitches and from the edge of the vascular wall, straight line of anastomosis, absence of pockets - 3 points;

- in 1 place there is an unequal distance between the stitches and from the edge of the vascular wall, an even line of the anastomosis, but 1 stitch does not lie on the line or there is 1 pocket - 2 points;
- in 2 places there is an unequal distance between the stitches and from the edge of the vascular wall, an even line of the anastomosis, but 2 stitches do not lie on the line and there are 2 pockets - 1 point;
- in more than 2 places there is an uneven distance between the stitches and from the edge of the vascular wall, a curved line of the anastomosis, more than 2 stitches are not on the line and there are more than 2 pockets - 0 points.

4) Absence of unnecessary trauma to the vascular wall:

- no damage - 3 points;
- there is one damage - 2 points;
- there are 2 damages - 1 point;
- there are 3 or more damages - 0 points.

* The check is carried out after opening the vessel: the presence of cut sutures and mechanical damage to the intima during anastomosis.

5) Work completion time:

The time to complete the microsurgical vascular anastomosis competition is 15 minutes. After the time has elapsed, the competition is terminated and the result is evaluated according to the criteria above.

Endoscopic transnasal work with a high-speed bur on an egg

Material : 3D model simulation transnasal access, chicken egg

Provided tools and equipment:

1. Console Core , Stryker (USA) with a drill, a set of cutters and attachments - power equipment
2. Scalpel
3. Transnasal scissors
4. Dissector
5. Kerrison wire cutters
6. Tweezers
- 7 . Suture material
8. Glass of water

9. Suction system

10. Karl Storz Tele Pack (Mobile endoscopic video system)

1) Drilling chicken egg shells without damaging the inner film

Without traumatization - 4 points;

With minor trauma less than 3 mm – 2 points

With significant trauma more than 3 mm - 0 points

2) Evacuation of liquid protein without evacuation of the yolk.

Evacuation of chicken protein while maintaining the integrity of the yolk – 4 points

Evacuation of chicken protein when the integrity of the yolk is damaged – 2 points

Evacuation of all contents -0 points.

3) Hermetic suturing subshell membrane.

The subshell membrane is sutured hermetically - 6 points

A single area of leakage less than 2mm - 5 points

Single area of leakage from 2-3mm or 2 areas of leakage of less than 2mm -2 points

A single area of leakage of more than 3 mm or more than 2 areas of leakage of less than 2 mm – 0 points.

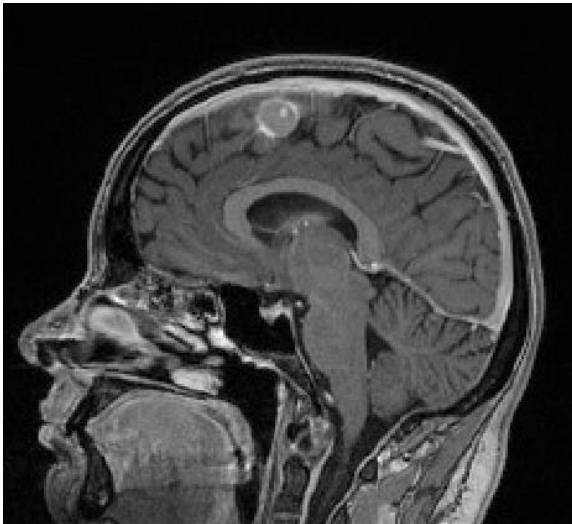
Additional competition

✓ Work on power equipment - craniotomy.

Second task: Parasagittal craniotomy

Simulated clinical situation: Patient A, 47 years old with a small meningioma of the middle third of the falx with a clinical picture of motor partial seizures in the right limb. The doctor ordered an MRI of the brain and an EEG. According to MRI, there is a space-occupying formation in the area of the middle third of the falx dimensions 2 x 4 x 3 cm. According to EEG data – epileptic activity in the parietal region.

Clinical diagnosis : Meningioma of the middle third of the falx . Symptomatic partial epilepsy with simple motor seizures.



Material: Ram (lamb) head

Provided tools and equipment:

1. Console Core , Stryker (USA) with a drill, a set of cutters and attachments - power equipment
2. Scalpel
3. Scissors
4. Raspatory
5. Dissectors
6. Kerrison wire cutters
7. Luer cutters
8. Tweezers
9. Retractors and/or hooks with elastic bands
10. Suture material
11. Glass of water
12. Suction system

In this task, participants need to perform all stages of craniotomy on the head of a lamb (skin incision, skeletonization of the bone, making burr holes, craniotomy, opening and suturing of the dura mater)

Competition evaluation criteria:

- 1) Preparation and marking of the surgical field (implementation and theoretical description of possible marking methods) - up to 3 points

- 2) Making and justifying the skin incision. Aesthetics. – up to 3 points
- 3) Justification of the number and location of the trepanation holes - up to 3 points
- 4) Justification of the size and shape of craniotomy - up to 3 points
- 5) Damage to the dura mater
 - No damage – 3 points
 - Damage to the dura mater of craniotomy – 0 points
- 6) Correct opening and suturing of dura mater – up to 3 points
- 7) Working with tools (hand position, correct use of tools) – up to 3 points
- 8) Time to complete the work: 30 minutes.

7. Summing up and awarding the winners

7.1. Based on the results of all stages, a rating of participants is compiled. Three students who took 1st, 2nd and 3rd place in the overall standings receive the opportunity to participate in master classes at the expense of the prize fund of the Olympiad (1st place – 10 master classes, 2nd place - 5 master classes, 3rd place - 3 master classes), held on the basis of the Federal Center for Neurosurgery (Moscow) . Tyumen).

7.2. If based on the results of all stages of the Olympiad, there are competitors who have scored the same number of points in the individual competition, an additional competition is held.

7.3 Taking into account the possibility of appeals, all answer options are saved on paper with the obligatory signature of the student and the relevant jury member. Video recordings of all competitions will be made and stored.

Additional Information :

1. Payment for travel by air, railway, motor transport, transfers, accommodation and meals are not provided by the management of the Olympiad (useful information on travel plans, hotels, etc. - <http://1nca.ru/skhema-proezda>).

2. For all questions regarding the Olympiad, please contact [olimpfcn @ gmail . com](mailto:olimpfcn@gmail.com)

3. Conference chats have been created on the social networks VKontakte and Telegram , where you can also ask questions that interest you.