CHAPTER NAME:

Czech League Against Epilepsy (Česká liga proti epilepsii)

REPORT SUBMITTED BY:

David Krýsl, M.D., Ph.D.

EMAIL:

dkrysl@gmail.com

ILAE OFFICERS:

Pavel Kršek, M.D., Ph.D., President

David Krýsl, M.D., Ph.D., Secretary General

Irena Doležalová, M.D., Ph.D., Treasurer

Přemysl Jiruška, M.D., Ph.D., Vice President

Petr Marusič, M.D., Ph.D., Board Member

Milan Brázdil, M.D., Ph.D., FRCP, Board Member

Hana Ošlejšková, M.D., Ph.D., Board Member (Past President)

Klára Brožová, M.D., Ph.D., Board Member

Ondřej Horák, M.D., Board Member

OFFICER ELECTION DATE:

1.10.2023

CHAPTER WEBSITE & SOCIAL MEDIA ACCOUNTS:

https://www.clpe.cz/

CHAPTER MEETINGS IN 2023 AND 2024:

- Den České ligy proti epilepsii, Brno Seizure Conference 30-31.3.2023, Brno (Czech League Against Epilepsy Day, Brno Seizure Conference)
- First day of 26th Postgraduate epileptology course (XXVI. Postgraduální kurz epileptologie 2023) – Průhonice, 6-7.10.2023
- Den České ligy proti epilepsii, Brno Seizure Conference 22.3.2024, Brno (Czech League Against Epilepsy Day, Brno Seizure Conference)
- First day of 27th Postgraduate epileptology course (XXVII. Postgraduální kurz epileptologie 2024) – Průhonice, 4-5.10.2024

SUMMARY OF ACTIVITIES AND ACCOMPLISHMENTS IN 2023 AND 2024:

EDUCATIONAL INITIATIVES (SELECTION):

Congresess and meetings organized or co/organized by Czech League Against Epilepsy:

- Den České ligy proti epilepsii, Brno Seizure Conference 30-31.3.2023, Brno (Czech League Against Epilepsy Day, Brno Seizure Conference)
- Clinical epileptology course X 3/23, Brno
- 20th Practical neurology congress, 6/23, Brno
- 25. congress of child neurology 9/2023, Brno
- 26th Postgraduate epileptology course (XXVI. Postgraduální kurz epileptologie 2023) – Průhonice, 6-7.10.2023
- 35th Czech and Slovak Epileptology Congress + 69th Congress of Clinical Neurophysiology (35. Český a Slovenský epileptologický sjezd + 69. Český a Slovenský sjezd klinické neurofyziologie) – Brno, Courtyard by Marriott, 9-10.11.2023
- 36th Czech and Slovak Neurology Congress (36. Český a Slovenský neurologický sjezd 2023) – Hradec Králové, Aldis, 29.11. – 1.12.2023
- Motol Epilepsy Surgery Day (10.1.2024, Motol, Prague)
- Clinical epileptology course 3/24
- 13th EPODES Advanced II – Brno, 22-26.1.2024
- Robert Kuba´s Epilepsy Week (EpiTýden Roberta Kuby -- 21-26.3.2024), Brno
- Den České ligy proti epilepsii, Brno Seizure Conference 22.3.2024, Brno (Czech League Against Epilepsy Day, Brno Seizure Conference)
- 21th Practical neurology congress, 6/24
- 26. congress of child neurology 9/2024
- 27th Postgraduate epileptology course (XXVI. Postgraduální kurz epileptologie 2023) –– Průhonice, 4-5.10.2024
- 36th Czech and Slovak Epileptology Congress + 70th Congress of Clinical Neurophysiology (36. Český a slovenský epileptologické sjezd a 70. Český a Slovenský sjezd klinické neurofyziologie) -- Olomouc 24.-25.10.2024
- 37. Český a slovenský neurologický sjezd -- Ostrava (27.-29.11.2024)

Books:

- Žena a epilepsie, by Jana Zárubová, et al. (new edition of a book on the topic Women and Epilepsy)
- EEG v intenzivní medicíně (EEG in Intensive Care), Irena Doležalová et al.
- Epileptologie (Epileptology), Milan Brázdil et al.
- Atlas of EEG in adults (Atlas elektroencefalografie dospělých), Zdeněk Vojtěch

Educational activities:

- Development of an online tool for Ketogenic Diet including a keto-calculator on Czech League Against Epilepsy website.
- Guidelines on initial treatment of convulsive status epilepticus in children.
- Mediately online application (recommendations based on Minimal Diagnostic and Therapeutic Standards issued by Czech League Against Epilepsy)
- Educational courses for teachers of Physical Education and trainers, courses for Primary School Teachers
- Translation of EEG Glossary into Czech
- Information about anti-seizure medication availability / stop in supply chain on the website of Czech League Against Epilepsy.

Advocacy or public outreach efforts:

- Extensive cooperation with EpiStop: https://www.epistop.cz/

Awareness days:

- 26th March – Purple Day / World Epilepsy Day
- 23rd October – SUDEP Action Day

Ongoing research:

Epileptology research in the Czech Republic is strongly stimulated by the activities of the Czech League Against Epilepsy. Key areas of investigation include the optimization of epilepsy surgery, with ongoing efforts to refine pre-surgical evaluation techniques and improve surgical outcomes. Advanced neuroimaging and EEG postprocessing techniques are another major focus: detection of subtle lesions and evaluating relevant imaging biomarkers as well as developing and implementing novel methods for seizure detection, localization, and prediction using computational analysis. Furthermore, significant efforts are dedicated to uncovering the genetic underpinnings of various epilepsy syndromes, with the goal of identifying novel therapeutic targets and improving genetic counseling. Finally, research into autoimmune causes of epilepsy is expanding, exploring the role of specific antibodies and immune mechanisms in seizure generation, and investigating the potential of immunomodulatory therapies. Members of the Czech League Against Epilepsy are involved in national and international collaborative projects and networks, such as ERN EpiCARE.

Government liaisons:

- Ongoing dialogue between governmental agencies and Czech League Against Epilepsy regarding organization of care for patients with rare and complex epilepsies (SYPOVO)
- Disruptions of supply chains of anti-seizure medication (ASM): Newly created list of critical ASM and their application forms. Since July 2024, pharmacies are obliged to report medication in stock, in case of shortage, there is a re-export restriction order.
- New codes for reimbursement of VNS parameter adjustment and consultation of complex patients by a multidisciplinary team.
- A joint effort by CLPE and patient organizations to improve the coverage of assistive devices in patients with epilepsy
- Czech Brain Council (CBC), IGAP (Intersectoral Global Action Plan on Epilepsy and Other Neurological Disorders 2022 – 2031)
- A joint effort by CLPE, patient organizations and Ministry of Health to formalize and add legal backing to the use of emergency anti-seizure medication by lay persons / teachers in pre-schools and schools.

Partnerships with other organizations:

- *EpiStop*
- Společnost E
- EPICANA
- *Společnost dětské neurologie (Society of Pediatric Neurology)*
- *Česká neurologická společnost (Czech Neurological Society)*
- *Česká společnost pro klinickou neurofyziologii (Czech Society For Clinical Neurophysiology)*

RESEARCH OR ARTICLES PUBLISHED IN 2023 OR 2024 WITH PARTICIPATION OF CLPE (SELECTED):

- Barba, C., Blumcke, I., Winawer, M. R., et al. Clinical Features, Neuropathology, and Surgical Outcome in Patients With Refractory Epilepsy and Brain Somatic Variants in the SLC35A2 Gene. Neurology. 2023 Jan 31;100(5):e528-e542. doi: 10.1212/WNL.0000000000201471. Epub 2022 Oct 28. PMID: 36307217; PMCID: PMC9931085.
- Straka, B., Vlčková, M., Libá, Z., et al. COL4A1 mutation-related disorder presenting as fetal intracranial bleeding, hydrocephalus, and polymicrogyria. Epilepsia Open. 2023 Mar;8(1):211-216. doi: 10.1002/epi4.12681. Epub 2022 Dec 18. PMID: 36504316; PMCID: PMC9977753.
- Javurkova, A., Zivnustka, M., Brezinova, T., et al. Neurocognitive profile in patients with idiopathic generalized epilepsies: Differences between patients, their biological siblings, and healthy controls. Epilepsy Behav. 2023 Apr 20;142:109204. doi: 10.1016/j.yebeh.2023.109204. Epub ahead of print. PMID: 37086591.
- Janca, R., Tomasek, M., Kalina, A., et al. "Automated Identification of Stereoelectroencephalography Contacts and Measurement of Factors Influencing Accuracy of Frame Stereotaxy," in IEEE Journal of Biomedical and Health InformaticsMojžišová, H., Elišák, M., Krýsl, D., et al. Low prevalence of neural autoantibodies in perioperative cerebrospinal fluid samples of epilepsy surgery patients: A multicenter prospective study. Epilepsia. 2024; 00: 1–11. https://doi.org/10.1111/epi.17894
- Janca, R., Jezdik, P., Ebel, M., et al. Distinct patterns of interictal intracranial EEG in focal cortical dysplasia type I and II. Clinical Neurophysiology. 2023, 151, 10-17. ISSN 1388-2457. https://doi.org/10.1016/j.clinph.2023.03.360.
- Kalina, A., Jezdik, P., Fabera, P., et al. Electrical Source Imaging of Somatosensory Evoked Potentials from Intracranial EEG Signals. Brain Topogr. 2023, 36, 835–853. https://doi.org/10.1007/s10548-023-00994-5
- Sedlackova, L., Sterbova, K., Vlckova, M., et al. Yield of exome sequencing in patients with developmental and epileptic encephalopathies and inconclusive targeted gene panel. Eur J Paediatr Neurol. 2023 Nov 13;48:17-29. doi: 10.1016/j.ejpn.2023.10.006. Epub ahead of print. PMID: 38008000.
- Happ, H. C., Sadleir, L. G., Zemel, M., et al. Neurodevelopmental and Epilepsy Phenotypes in Individuals With Missense Variants in the Voltage-Sensing and Pore Domains of KCNH5. Neurology. 2023 Feb 7;100(6):e603-e615. doi: 10.1212/WNL.0000000000201492. Epub 2022 Oct 28. PMID: 36307226; PMCID: PMC9946193.
- Kynčl, M., Holubová, Z., Tintěra, J., et al. Doporučení pro strukturální zobrazení MR mozku v diagnostice epilepsie. Česká a slovenská neurologie a neurochirurgie. 2023, 86(1), 18-24. ISSN 1210-7859.
- Montanucci, L., Lewis-Smith, D., Collins, R. L., et al. Genome-wide identification and phenotypic characterization of seizure-associated copy number variations in 741,075 individuals. Nature Communications. 2023, 14(1), 4392. ISSN 2041-1723. DOI 10.1038/s41467-023-39539-6.
- Straka, B., Splítková, B., Vlčková, M., et al. Genetic testing in children enrolled in epilepsy surgery program. A real-life study. European Journal of Paediatric Neurology. 2023, 47(November), 80-87. ISSN 1090-3798. DOI 10.1016/j.ejpn.2023.09.009.
- Pokošová, P., Kala, D., Šanda, J., et al. Magnetic resonance imaging techniques for indirect assessment of myelin content in the brain using standard T1w and T2w MRI sequences and postprocessing analysis. Physiological Research. 2023, 72(Suppl. 5), S573-S585. ISSN 0862-8408. DOI 10.33549/physiolres.935250.
- Rubboli, G., Beier, C. P., Selmer, K. K., et al. Variation in prognosis and treatment outcome in juvenile myoclonic epilepsy: a Biology of Juvenile Myoclonic Epilepsy Consortium proposal for a practical definition and stratified medicine classifications. Brain Communications. 2023, 5(3), fcad182. ISSN 2632-1297. DOI 10.1093/braincomms/fcad182.

- Dallmer-Zerbe, I. M. I., Jajcay, N., Chvojka, J., et al. Computational modeling allows unsupervised classification of epileptic brain states across species. Scientific Reports. 2023, 13(August), 13436. ISSN 2045-2322. DOI 10.1038/s41598-023-39867-z.
- Roshandel, D., Sanders, E. J., Shakeshaft, A., et al. SLCO5A1 and synaptic assembly genes contribute to impulsivity in juvenile myoclonic epilepsy. npj Genomic Medicine. 2023, 8(1), 28. ISSN 2056-7944. DOI 10.1038/s41525-023-00370-z.
- Berkovic, S. F., Neale, B. M., Zsurka, G., et al. Exome sequencing of 20,979 individuals with epilepsy reveals shared and distinct ultra-rare genetic risk across disorder subtypes. Nature Neuroscience. 2024, 27(10), 1864-1879. ISSN 1097-6256. DOI 10.1038/s41593-024-01747-8.
- Bukačová, K., Maulisová, A., Jahodová, A., et al. Vývoj kognitivní výkonnosti u dětí před a po chirurgické léčbě farmakorezistentní epilepsie temporálního laloku. Česká a slovenská neurologie a neurochirurgie. 2024, 87(4), 275-281. ISSN 1210-7859. DOI 10.48095/cccsnn2024275.
- Danačíková, Š., Straka, B., Daněk, J., et al. In vitro human cell culture models in a bench-to-bedside approach to epilepsy. Epilepsia Open. 2024, 9(3), 865-890. ISSN 2470-9239. DOI 10.1002/epi4.12941.
- Sedláčková, L., Štěrbová, K., Vlčková, M., et al. Yield of exome sequencing in patients with developmental and epileptic encephalopathies and inconclusive targeted gene panel. European Journal of Paediatric Neurology. 2024, 48(January), 17-29. ISSN 1090-3798. DOI 10.1016/j.ejpn.2023.10.006.
- Straka, B., Koblížek, M., Heřmanovská, B., et al. A 5-year-old boy with super-refractory status epilepticus and RANBP2 variant warranting life-saving hemispherotomy. Epilepsia Open. 2024, 9(1), 424-431. ISSN 2470-9239. DOI 10.1002/epi4.12863.
- Špilárová, Z., Sládková, S., Bělohlávková, A., et al. Brivaracetam use in children with epilepsy: A retrospective multicenter study. Seizure. 2024, 121(October), 243-252. ISSN 1059-1311. DOI 10.1016/j.seizure.2024.08.022.
- Gunia, A., Moraresku, S., Janča, R., et al. The brain dynamics of visuospatial perspective-taking captured by intracranial EEG. NeuroImage. 2024, 258(January), 120487. ISSN 1053-8119. DOI 10.1016/j.neuroimage.2023.120487.
- Hammer, J., Kajšová, M., Kalina, A., et al. Antagonistic behavior of brain networks mediated by low-frequency oscillations: electrophysiological dynamics during internal-external attention switching. Communications Biology. 2024, 7(1), 1105. ISSN 2399-3642. DOI 10.1038/s42003-024-06732-2.
- Mojžišová, H., Elišák, M., Krýsl, D., et al. Low prevalence of neural autoantibodies in perioperative cerebrospinal fluid samples of epilepsy surgery patients: A multicenter prospective study. Epilepsia. 2024, 65(3), 687-697. ISSN 0013-9580. DOI 10.1111/epi.17894.
- Ogurčáková, V., Kajšová, M., Marusič, P., et al. Social cognition in idiopathic generalised epilepsies. Behavioural Brain Research. 2024, 469(July), 115044. ISSN 0166-4328. DOI 10.1016/j.bbr.2024.115044.
- Sanders, M. W., Van Der Wolf, I., Jansen, F. E., et al. Outcome of Epilepsy Surgery in MRI-Negative Patients Without Histopathologic Abnormalities in the Resected Tissue. Neurology. 2024, 102(4), e208007. ISSN 0028-3878. DOI 10.1212/WNL.0000000000208007.
- Šroubek, J., Krámská, L., Česák, T., et al. Ultrasound-Navigated Multiple Hippocampal Transections: An Anatomical Study. Journal of Neurological Surgery Part A: Central European Neurosurgery. 2024, 85(05), 444-450. ISSN 2193-6315. DOI 10.1055/s-0043-1771276.
- Splitkova, B., Mackova, K., Koblizek, M., et al. A new perspective on drug-resistant epilepsy in children with focal cortical dysplasia type 1: From challenge to favorable outcome. Epilepsia. 2024 Dec 26. doi: 10.1111/epi.18237. Epub ahead of print. PMID: 39724384.
- Stevering, C., Lequin, M., Szczepaniak, K., et al. Vigabatrin-associated brain magnetic resonance imaging abnormalities and clinical symptoms in infants with tuberous sclerosis complex. Epilepsia. 2025 Feb;66(2):356-368. doi: 10.1111/epi.18190. Epub 2024 Dec 6. PMID: 39641935; PMCID: PMC11827727.
- Kudr, M., Janca, R., Jahodova, A., et al. Epilepsy surgery in children with operculoinsular epilepsy: Results of a large unicentric cohort. Epilepsia. 2025 Feb;66(2):444-457. doi: 10.1111/epi.18185. Epub 2024 Dec 5. PMID: 39636170; PMCID: PMC11827755.
- Battino, D., Tomson, T., Bonizzoni, E., et al. Risk of Major Congenital Malformations and Exposure to Antiseizure Medication Monotherapy. JAMA Neurol. 2024 May 1;81(5):481-489. doi: 10.1001/jamaneurol.2024.0258. PMID: 38497990; PMCID: PMC10949148.
- Rada, A., Hagemann, A., Aaberg Poulsen, C., et al. Risk of Seizure Recurrence Due to Autoimmune Encephalitis With NMDAR, LGI1, CASPR2, and GABABR Antibodies: Implications for Return to Driving. Neurol Neuroimmunol Neuroinflamm. 2024 Jul;11(4):e200225. doi: 10.1212/NXI.0000000000200225. Epub 2024 Jun 4. PMID: 38838283; PMCID: PMC11160480.

- Česká, K., Papež, J., Ošlejšková, H., et al. CCL2/MCP-1, interleukin-8, and fractalkine/CXC3CL1: Potential biomarkers of epileptogenesis and pharmacoresistance in childhood epilepsy. European Journal of Paediatric Neurology. 2023, 46(September), 48-54. ISSN 1090-3798. doi:10.1016/j.ejpn.2023.06.001.
- Všianský, V., Brázdil, M., Rektor, I., et al. Twenty-five years of epilepsy surgery at a Central European comprehensive epilepsy center-Trends in intervention delay and outcomes. Epilepsia Open. 2023, 8(3), 991-1001. ISSN 2470-9239. doi:10.1002/epi4.12769.
- Travnicek, V., Klimes, P., Cimbálník, J., et al. Relative entropy is an easy-to-use invasive electroencephalographic biomarker of the epileptogenic zone. Epilepsia. 2023, 64(4), 962-972. ISSN 0013-9580. doi:10.1111/epi.17539.
- Pijackova, K., Nejedlý, P., Kremen, V., et al. Genetic algorithm designed for optimization of neural network architectures for intracranial EEG recordings analysis. Journal of Neural Engineering. 2023, 20(3), 1-11. ISSN 1741- 2560. doi:10.1088/1741-2552/acdc54.
- Nejedlý, P., Kremen, V., Lepkova, K., et al. Utilization of temporal autoencoder for semi-supervised intracranial EEG clustering and classification. Nature Scientific Reports. 2023, 13(1), 1-13. ISSN 2045-2322. doi:10.1038/s41598-023-27978-6.
- Revajová, K., Travnicek, V., Jurak, P., et al. Interictal invasive very high-frequency oscillations in resting awake state and sleep. Scientific Reports. 2023, 13(1), 1-11. ISSN 2045-2322. doi:10.1038/s41598-023-46024-z.
- Kočvarová, J. Cenobamát v léčbě farmakorezistentní fokální epilepsie. Ceska a slovenska neurologie a neurochirurgie. 2023, 86(2), 153-154. ISSN 1210- 7859. doi:10.48095/cccsnn2023153.
- Sklenárová, B., Zatloukalová, E., Cimbálník, J., et al. Interictal high-frequency oscillations, spikes, and connectivity profiles: A fingerprint of epileptogenic brain pathologies. Epilepsia. 2023, 64(11), 3049-3060. ISSN 0013-9580. doi:10.1111/epi.17749.
- Stepanova, E., Medrická, H., Doležalová, I., et al. LGI1 encefalitida v dětském věku. Česká a slovenská neurologie a neurochirurgie. 2023, 86(3), 208- 210. ISSN 1210-7859. doi:10.48095/cccsnn2023208.
- Chrastina, J., Horák, O., Ryzí, M., et al. Single-center long-term results of vagus nerve stimulation for pediatric epilepsy: a 10-17-year follow-up study. Childs nervous system. 2023, 39(11), 3215-3224. ISSN 0256-7040. doi:10.1007/s00381-023-05992-3.
- Vašíčková, Z., Klimes, P., Cimbálník, J., et al. Shadows of very high-frequency oscillations can be detected in lower frequency bands of routine stereoelectroencephalography. Nature Scientific Reports. 2023, 13(1), 1-8. ISSN 2045-2322. doi:10.1038/s41598-023-27797-9.
- Weiss, V., Říha, P., Doležalová, I., et al. Brain Areas Predisposing to the Stroke-Related Epilepsy Development. Acta Neurologica Scandinavica. 2023, August 2023, 1-6. ISSN 0001- 6314. doi:10.1155/2023/1439121.
- Sklenárová, B., Chládek, J., Macek, M., et al. Entropy in scalp EEG can be used as a preimplantation marker for VNS efficacy. Scientific reports. 2023, 13(1), s. 1-12. ISSN 2045-2322. doi:10.1038/s41598-023-46113-z.
- Slonkova, J., Chudy, M., Togtokhjargal, A., et al. The effects of COVID-19 on sleep and general health of Czech patients with epilepsy. Heliyon. 2023, 9(2), s. 1-8. ISSN 2405-8440. doi:10.1016/j.heliyon.2023.e13413.
- Bartoňová, M., Tournier, J.-D., Bartoň, M., et al. White matter alterations in MR-negative temporal and frontal lobe epilepsy using fixel-based analysis. Scientific Reports. 2023, 13(1), 1-10. ISSN 2045-2322. doi:10.1038/s41598-022-27233-4.
- Negi, D., Granak, S., Shorter, S., et al. Molecular Biomarkers of Neuronal Injury in Epilepsy Shared with Neurodegenerative Diseases. Neurotherapeutics. 2023, 20(3), 767-778. ISSN 1933- 7213. doi:10.1007/s13311-023-01355-7.
- Přibylová, L., Ševčík, J., Eclerová, V., et al. Weak coupling of neurons enables very high-frequency and ultra-fast oscillations through the interplay of synchronized phase shifts. Network Neuroscience. 2024 Apr 1;8(1):293-318. DOI 10.1162/netn_a_00351.
- Chybowski, B., Klimes, P., Cimbalnik, J., et al. Timing matters for accurate identification of the epileptogenic zone. Clinical Neurophysiology. 2024 May;161:1-9. DOI 10.1016/j.clinph.2024.01.007.
- Jurkovičová, L., Páleník, J., Kudlička, P., et al. Subjective visual sensitivity in neurotypical adults: insights from a magnetic resonance spectroscopy study. Frontiers in Neuroscience. 2024 Sep 25;18:1417996. DOI 10.3389/fnins.2024.1417996. (Note: The date is likely incorrect as September 2024 is in the future.)
- Astner-Rohracher, A., Ho, A., Archer, J., et al. Prognostic value of the 5-SENSE Score to predict focality of the seizure-onset zone as assessed by stereoelectroencephalography: a prospective international

multicentre validation study. BMJ Neurology Open. 2024 Aug;6(2):e000765. DOI 10.1136/bmjno-2024-000765.
- Jurková, T., Chládek, J., Doležalová, I., et al. Pre-implantation Scalp EEG Can Predict VNS Efficacy in Children. Clinical EEG and Neuroscience. 2024 Dec 24:15500594241308594. DOI 10.1177/15500594241308594. (Note: The date is likely incorrect - probably intended as "Epub ahead of print".)
- Missey, F., Acerbo, E., Dickey, A. S., et al. Non-invasive Temporal Interference Stimulation of the Hippocampus Suppresses Epileptic Biomarkers in Patients with Epilepsy: Biophysical Differences between Kilohertz and Amplitude Modulated Stimulation. Neurology. 2024 Dec 11. [Online ahead of print]. [Accessed 3 March 2025]. (Note: Date formatting adjusted for consistency)
- Dimakopoulos, V., Gotman, J., Klimes, P., et al. Multicentre analysis of seizure outcome predicted by removal of high frequency oscillations. Brain. 2024 Nov 12:awae361. DOI 10.1093/brain/awae361.
- Sonawane, S., Všianský, V., Brázdil, M. MicroRNA-mediated regulation of neurotransmitter receptors in epilepsy: A systematic review. Epilepsy & Behavior. 2024 Sep;158:109912. DOI 10.1016/j.yebeh.2024.109912.
- Hrtonova, V., Nejedlý, P., Travnicek, V., et al. Metrics for evaluation of automatic epileptogenic zone localization in intracranial electrophysiology. Clinical Neurophysiology. 2025 Jan;169:33-46. DOI 10.1016/j.clinph.2024.11.007.
- Strýček, O., Říha, P., Kojan, M., et al. Metabolic connectivity as a predictor of surgical outcome in mesial temporal lobe epilepsy. Epilepsia Open. 2024 Feb;9(1):187-199. DOI 10.1002/epi4.12853.
- Frauscher, B., Mansilla, D., Abdallah, C., et al. Learn how to interpret and use intracranial EEG findings. Epileptic Disorders. 2024 Feb;26(1):1-59. DOI 10.1002/epd2.20190.
- Klimes, P., Nejedlý, P., Hrtonova, V., et al. Interictal stereo-electroencephalography features below 45 Hz are sufficient for correct localization of the epileptogenic zone and postsurgical outcome prediction. Epilepsia. 2024 Oct;65(10):2935-2945. DOI 10.1111/epi.18081.
- Kucewicz, M. T., Cimbalnik, J., Garcia-Salinas, J. S., et al. High frequency oscillations in human memory and cognition: a neurophysiological substrate of engrams? Brain. 2024 Sep 3;147(9):2966-2982. DOI 10.1093/brain/awae159.
- Ryvlin, P., Barba, C., Bartolomei, F., et al. Grading system for assessing the confidence in the epileptogenic zone reported in published studies: A Delphi consensus study. Epilepsia. 2024 May;65(5):1346-1359. DOI 10.1111/epi.17928.
- Fagerholm, E. D., Leech, R., Turkheimer, F. E., et al. Estimating the energy of dissipative neural systems. Cognitive Neurodynamics. 2024 Dec;18(6):3839-3846. DOI 10.1007/s11571-024-10166-1.
- Strýček, O., Všianský, V., Doležalová, I., et al. Eslicarbazepine-induced hyponatremia: A retrospective single-center real clinical practice study. Epilepsia Open. 2024 Feb;9(1):404-408. DOI 10.1002/epi4.12814.
- Kostolanska, N., Klimes, P., Kocvarova, J., et al. Case report: Insulinoma masquerades as epilepsy – quantitative EEG analysis. Frontiers in Neurology. 2024 Mar 26;15:1371055. DOI 10.3389/fneur.2024.1371055.
- Búrilová, P., Búril, J., Pokorná, A., et al. MAPPING THE BURDEN ON CAREGIVERS OF PEOPLE WITH EPILEPSY DURING THE COVID-19 PANDEMIC - PILOT STUDY. Ceskoslovenska Psychologie. 2024;68(1):96-106. DOI 10.51561/cspsych.68.1.
- Thomas, J., Abdallah, C., Jaber, K., et al. Development of a stereo-EEG based seizure matching system for clinical decision making in epilepsy surgery. Journal of Neural Engineering. 2024 Oct 1;21(5). DOI 10.1088/1741-2552/ad7323.

CHALLENGES FACED IN 2023 OR 2024:

The years 2023 and early 2024 presented significant challenges to epileptology care in the Czech Republic. Disruptions in anti-seizure medication supply chains, exacerbated by global events, created anxieties and potential risks for patients. The rising costs of care, particularly for advanced diagnostics and therapies, posed access barriers. The lingering effects of the COVID-19 pandemic continued to impact healthcare systems, slowing down access to specialized epilepsy care and delaying diagnostic procedures. The Russian invasion of Ukraine brought an influx of refugees, including many patients with neurological disorders and epilepsy, especially children, requiring rapid adaptation and expansion of existing services. Alongside these external pressures, internal challenges persisted: the need to optimize the structure of epilepsy care to ensure timely

and efficient access to appropriate levels of treatment, without unnecessary delays, and the imperative to establish a robust and coordinated system for managing patients with rare and complex Epilepsies, providing comprehensive, multidisciplinary care.

FUTURE PLANS FOR 2025

The Czech League Against Epilepsy is committed to a future where all individuals with seizures and epilepsy in the Czech Republic receive the highest possible standard of care. Key future plans focus on maintaining and enhancing this quality through several strategic initiatives. A primary goal is to further improve interdisciplinary collaboration, fostering seamless communication and coordinated care pathways between neurologists, neurosurgeons, neuropsychologists, psychiatrists, geneticists, and other specialists involved in epilepsy management. This includes developing standardized protocols and shared resources. Another critical area is the continued education of healthcare providers at all levels, from general practitioners to epilepsy specialists, ensuring they remain at the forefront of diagnostic and therapeutic advancements through workshops, conferences, and online learning platforms. Finally, the League will actively promote and support cutting-edge research in epileptology, fostering collaborations between Czech researchers and international institutions, and prioritizing projects that directly translate into improved patient outcomes, including investigations into novel therapies, advanced neuroimaging, genetics, and autoimmune mechanisms of epilepsy.