

ARTIGO DE PERSPETIVA

New Perspectives of Anaesthesiology Education in Lithuania

Novas Perspetivas na Educação em Anestesiologia na Lituânia

Vilma Traskaite-Juskeviciene^{1,2,*} , Andrius Macas^{1,2} 

Afiliação

¹ Department of Anaesthesiology, Lithuanian University of Health Sciences, Kaunas, Lithuania.

² Department of Anaesthesiology, Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Kaunas, Lithuania.

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Palavras-chave

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INTRODUCTION

History of anaesthesiology in Lithuania starts in 1872 when surgeons L. Lechavicius and A. Adomavicius gave a lecture on ether anaesthesia soon after it has first been performed by W. Morton in 1846. As in all countries the pioneers of anaesthesia have been surgeons who were interested in expanding their practice and ability to perform more complex procedures. Since 1952 anaesthesiology has been announced as a separate and independent specialty and the very first anaesthesiologists in Lithuania were called *narcotisators*.

In those days only 7 anaesthesiologists were working in Kaunas clinics – at that time the largest and the most modern university hospital in the Baltics. Anaesthesiology is a critical medical specialty, requiring a comprehensive educational framework to ensure that practitioners are well-equipped, enough experienced and able to handle the complexities of patient care during surgical procedures.

It is well known that technical skills are not enough for an anaesthesiologist. Non-technical skills, decision-making, situational awareness, problem-solving, and decision-making are not least important skills compared to airway or pain management and all those competencies have to be obtained during training years in medical university and then in residency studies after graduation.

The educational pathway in Lithuania is designed to meet both national standards and the European Training Requirements as stipulated by the Union Européenne des Médecins Spécialistes (UEMS).¹

LITHUANIAN EDUCATION SYSTEM FOR ANAESTHESIOLOGY

For many years experts of medical education in Lithuania were discussing various possible strategies of how medical education should be organized. Based on the experience from the foreign very educational-wise prominent countries like the Netherlands that strongly advocated for entrustable professional activities in medical education.

The Lithuanian postgraduate medical education strategy has also been steered towards this direction. Together with the reform various specialty residency programmes were prolonged to meet European standards. Every single specialty had to prepare new descriptions and post-graduate medical education has been very recently redesigned to meet European standards and to encourage residents to be more self-confident and responsible for their knowledge, skills and activities they perform while working and learning in the hospital. EPAs by Lithuanian University of Health Sciences define specific competencies that residents must acquire and demonstrate independently.²⁻⁵

ENTRUSTABLE PROFESSIONAL ACTIVITIES (EPAS)

In general, entrustable professional activities (EPAs) are units of professional practice defined as tasks or responsibilities that can be entrusted to a trainee once sufficient competence has been demonstrated and confirmed.⁶ EPAs serve as a bridge between theoretical knowledge and practical skills, providing a structured and measurable framework for assessing a trainee's readiness to perform critical clinical tasks independently. Their implementation ensures that the focus of medical education is on real-world clinical capabilities rather than solely on theoretical knowledge. EPAs have been widely adopted across various medical specialties globally due to their effectiveness in enhancing competency-

Autor Correspondente/Corresponding Author:

Vilma Traskaite-Juskeviciene

Morada: Hospital of Lithuanian University of Health Sciences Kaunas Clinics, Kaunas, Lithuania.

E-mail: traskaitevilma@gmail.com

Table 1. EPAs in Lithuania

EPAs in Lithuania	Ability to consult the patient before anesthesia/surgery
Description	This competency includes pre-anesthetic consultation and perioperative care planning. The resident doctor can evaluate the patient's condition before anesthesia and surgery, determine perioperative risk, prescribe additional tests/consultations, prepare for anesthesia and surgery, and choose an appropriate anesthetic/perioperative care plan based on the patient's comorbidities and the planned surgical procedure
Sub-competencies	- Patient status evaluation - Perioperative care planning - Risk assessment and management
Training requirements	Includes rotations in general anaesthesia, regional anaesthesia, neuroanaesthesia, abdominal surgery anaesthesia, and more
EPA2	Ability to manage airways during anesthesia and in critical situations
Description	This competency involves assessing the airways before anesthesia and in critical situations, creating and dynamically adjusting an airway management
Sub-competencies	- Airway assessment - Execution of airway management techniques - Dynamic adjustment of airway plans
Training requirements	Practical training with non-instrumental and minimally invasive techniques, such as mask ventilation, laryngeal mask use, tracheal intubation, and emergency procedures like cricothyrotomy
EPA3	Ability to perform general anesthesia and sedation
Description	This competency includes performing general anesthesia and sedation safely for patients of all age groups with various comorbidities for different surgical and diagnostic procedures
Sub-competencies	- Execution of general anaesthesia - Sedation practices - Risk management
Training requirements	Intensive training in different anaesthesia disciplines including paediatric, obstetric, trauma, cardiac, and head and neck surgery
EPA4	Ability to perform regional anesthesia
Description	This competency includes performing regional anesthesia safely for patients of all age groups with various comorbidities for different surgical and diagnostic procedures
Sub-competencies	- Techniques for regional anaesthesia - Patient safety during regional procedures - Management of complications
Training requirements	- Anaesthesia competencies with a focus on regional techniques like spinal, epidural, and peripheral nerve blocks
EPA5	Ability to Perform Postanesthesia Care and Manage Acute Pain
Description	This competency involves planning and providing postanesthetic care, managing postanesthetic events and complications, and treating acute pain. The resident doctor will be able to safely provide postanesthetic care to patients of all age groups with various comorbidities for different surgical and diagnostic procedures
Sub-competencies	- Application and interpretation of monitoring - Clinical vigilance and crisis management - Perioperative pain management - Postanesthetic care
Training requirements	Must complete specified credit cycles in general anesthesia, regional anesthesia, and various specialized anesthesia fields (e.g., neuroanesthesia, pediatric anesthesia)
EPA6	Ability to Manage Chronic Pain
Description	This competency involves diagnosing and treating chronic pain. The resident doctor will be capable of providing comprehensive care for patients suffering from chronic pain, considering various comorbidities and applying multidisciplinary approaches
Sub-competencies	- Chronic pain assessment and management - Multimodal pain management strategies
Training requirements	Must complete cycles focused on chronic pain management, including specific training in multimodal strategies and interdisciplinary approaches

based education. They facilitate clearer expectations for both learners and educators, promote patient safety by ensuring that trainees are competent in key tasks before performing them unsupervised, and support a more personalized and adaptive learning experience. In anaesthesiology, for instance, EPAs help structure the complex array of skills and knowledge required into manageable and assessable components, thus enhancing the overall training process and ensuring that practitioners are well-prepared for independent practice.

EPAS IN LITHUANIAN EDUCATION OF ANAESTHESIOLOGY

EPAs in Lithuanian post-graduate education system have been discussed for many years in various formats and finally it was implemented and came in 2023. A group of experienced specialists in both education and anaesthesiology developed in total six EPAs, which were divided into sub-competencies, and other skills that residents have to obtain to become fully qualified.

Table 1 summarizes the core competencies (EPA1-EPA6) required for anesthesiology residents, detailing each competency's focus and the specific requirements to achieve them (Table 1.)

EUROPEAN TRAINING REQUIREMENTS

The European Training Requirements (ETRs) by UEMS provide a framework for standardizing anaesthesiology education across Europe,¹ ensuring that Lithuanian training aligns with broader European standards. Key aspects of UEMS requirements include:

Clinical Training: Comprehensive clinical exposure across various subspecialties, ensuring that trainees are well-versed in all aspects of anaesthesia. **Theoretical Knowledge:** Emphasis on continuous education through courses, seminars, and self-directed learning.

Practical Skills: Hands-on training with modern anaesthesia techniques, simulation-based learning, and emergency management. **Assessment and Certification:** Regular assessments, including formative and summative evaluations, to ensure competence in all required areas.

UEMS REQUIREMENTS HIGHLIGHTS

Duration and Structure: Typically, a five-year program with structured rotations in different anaesthesia subspecialties.

Competency-Based Training: Focus on achieving specific competencies that are essential for independent practice.

Continuous Assessment: Ongoing evaluations through direct observation, feedback, and formal examinations.

Having in mind the requirements highlighted by UEMS it can be confirmed that after redesigning post-graduate medical education in Lithuania meets all the criteria and trainees after residency in Lithuania are competent and ready to work safely on their own. Moreover, standards by UEMS play a major role in shaping anaesthesiology training in Lithuania. European Society of Anaesthesiology and Intensive Care (ESAIC) has also very strong education-related incentives residency programme in Kaunas Clinics was awarded and accredited as centre of excellence.² Our centre has been re-accredited twice already showing consistency and devotion to constant improvement.

SIMULATIONS IN ANAESTHESIOLOGY TRAINING IN LITHUANI

Simulation-based training has become an integral part of anaesthesiology education, providing a controlled and safe environment for learners to develop and hone their clinical skills. In Lithuania, the integration of simulation into anaesthesiology training aligns with the European standards, emphasizing competency-based education and patient safety.² Simulations offer a unique platform for anaesthesiology residents to practice a wide range of scenarios, from routine procedures to rare and complex cases, without the risk of



Figure 1. Reaccreditation certificate

harming actual patients. This hands-on approach enhances the learning experience by allowing trainees to apply theoretical knowledge in practical settings, improving their clinical decision-making and technical skills. Moreover, simulations can be tailored to individual learning needs, providing targeted feedback and opportunities for repeated practice.

Incorporating simulations into the training curriculum helps bridge the gap between classroom learning and real-world practice. This method not only boosts the confidence and competence of anaesthesiology trainees but also contributes to the overall improvement of patient care quality. As a result, Lithuanian anaesthesiology programs have increasingly adopted simulation-based training, reflecting a commitment to adopting innovative educational strategies that ensure the preparedness of future anaesthesiologists.

FUTURE CHALLENGES

It is obvious that even after implementation of EPAs challenges in medical education system are inevitable. The field of medical education, particularly in anaesthesiology, faces several significant challenges that could shape its future trajectory. One of the primary concerns is the increasing demands and expectations from residents. Today's medical trainees seek more comprehensive and flexible training programs that not only cover the technical and clinical aspects of anaesthesiology but also focus on work-life balance, mental health, and professional development.³ Addressing these needs requires innovative educational strategies and enhanced support systems. Moreover, there is a worrying trend of fewer medical graduates choosing to enter anaesthesiology residencies.⁵ This decline could be attributed to various factors, including the perceived intensity and stress associated with the specialty, and competition from other medical fields that offer more attractive career prospects.⁴ To counter this trend, it is crucial to promote anaesthesiology as a rewarding and dynamic career, highlighting the critical role anaesthesiologists play in patient care and the diverse opportunities within the specialty. Additionally, higher requirements and expectations from

both regulatory authorities and society present another challenge. There is a growing emphasis on ensuring the highest standards of patient safety and care, which translates to more stringent accreditation processes and continuous professional development requirements for anaesthesiologists. This shift demands that training programs continuously adapt to meet these evolving standards while maintaining the quality of education. Addressing these challenges will require a collaborative effort from medical educators, professional bodies, and policymakers to create an adaptive and resilient education system that can meet the needs of future anaesthesiologists while ensuring they are well-prepared to meet the demands of the healthcare environment.

CONCLUSION

The education system for anaesthesiology in Lithuania is a comprehensive and well-structured program that integrates national and European standards to ensure high-quality training for future anaesthesiologists. With a focus on entrustable professional activities (EPAs), the system emphasizes practical competencies and real-world clinical skills, bridging the gap between theoretical knowledge and clinical practice. The incorporation of simulation-based training further enhances this approach, providing a safe and controlled environment for trainees to develop their skills and improve patient care outcomes. Despite the strengths of the current system, future challenges loom large. Increasing demands from residents for more flexible and supportive training environments, a declining interest in anaesthesiology among medical graduates, and higher expectations from regulatory authorities and society are pressing issues that need to be addressed. To maintain the quality and attractiveness of anaesthesiology training, it is crucial to adapt to these evolving needs and ensure that the educational framework remains dynamic and resilient. In conclusion, the future of anaesthesiology education in Lithuania hinges on its ability to balance rigorous competency-based training with the evolving demands of trainees and the healthcare environment. By embracing innovative educational strategies and fostering a supportive learning environment, Lithuania can continue to produce skilled and competent anaesthesiologists who are well-prepared to meet the challenges of modern medical practice.

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VT: Conception, design, writing, supervision and critical revision of the manuscript

AM: Supervision and critical revision of the manuscript

All the authors contributed equally to the design and writing of the manuscript. All approved the final version to be published

VT: *Conceção, desenho, redação, supervisão e revisão crítica do manuscrito*

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