

ARTIGO DE PERSPECTIVA

# Navigating through the Restructured Anaesthesia Specialist Training in Bavaria, Germany: A Comprehensive Overview

## *Navegar na Formação Reestruturada de Especialistas em Anestesia na Baviera, Alemanha: Uma Visão Global*

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### Palavras-chave

Alemanha; Anestesiologia/educação

## ABSTRACT

Anaesthesia training in Germany, particularly in Bavaria, is meticulously structured to equip medical professionals with the expertise needed to excel in this critical field of modern healthcare. This article provides a detailed examination of the anaesthesia specialist training process in Bavaria following the reorganisation of specialist training by the German Medical Association in 2018. The focus of this article is on the implementation of the new specialist training regulations (WBO 2021) by the Federal Association of Medical Doctors in Bavaria (BLAEK) since August 2022. The training duration, organization, assessment methods, regulatory bodies, recertification programs, and both strengths and future challenges are explored. Key elements include an individualised acceptance process, structured training duration of five to six years, competency-based learning with an electronic logbook, mandatory courses in specialized anaesthesia techniques, and periodic recertification through continuing medical education activities (CME). Strengths of the training curriculum encompass structured education, comprehensive clinical exposure, and interdisciplinary collaboration. However, future challenges include workforce shortages, technological advancements, and evolving healthcare landscapes, necessitating ongoing adaptation and innovation to ensure the delivery of high-quality anaesthesia care in Bavaria, Germany.

## RESUMO

A formação em anestesia na Alemanha, particularmente na Baviera, é meticulosamente estruturada para equipar os médicos com os conhecimentos necessários para se destacarem neste domínio crítico dos cuidados de saúde modernos. Este artigo fornece uma análise detalhada do processo de formação de especialistas em anestesia na Baviera após a reorganização da formação de especialistas pela German Medical Association em 2018. O foco deste artigo é a implementação dos novos regulamentos de treino especializado (WBO 2021) pela Federal Association of Medical Doctors in Bavaria (BLAEK) desde agosto de 2022. São explorados a duração da formação, a organização, os métodos de avaliação, os organismos reguladores, os programas de recertificação, bem como os pontos fortes e os desafios futuros. Os elementos-chave incluem um processo de aceitação individualizado, uma duração de formação estruturada de cinco a seis anos, aprendizagem baseada em competências com um *electronic logbook*, cursos obrigatórios em técnicas especializadas de anestesia e recertificação periódica através de actividades de educação médica contínua (EMC). Os pontos fortes do currículo de formação abrangem o ensino estruturado, a exposição clínica abrangente e a colaboração interdisciplinar. No entanto, os desafios futuros incluem a escassez de mão de obra, os avanços tecnológicos e a evolução dos cenários dos cuidados de saúde, necessitando de adaptação e inovação contínuas para garantir a prestação de cuidados de anestesia de elevada qualidade na Baviera, Alemanha.

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## INTRODUCTION

Anaesthesia, a critical component of modern healthcare, requires skilled professionals to ensure patient safety and comfort during surgical procedures. In Germany, anaesthesia training is meticulously structured to equip medical professionals with the expertise needed to excel in this specialized field. This article provides a detailed examination of the current anaesthesia specialist training process in Bavaria, Germany, after the reorganisation of this process was decided in principle by the board of directors of the German Medical Association (Bundesärztekammer/ BAEK) on 15th. November 2018. The German Medical Association makes recommendations on how specialist medical training can be implemented in terms of organisation and content. However, according to national law, these proposed training models only have the character of recommendations to the German federal associations, which act as corporations under public law and are therefore responsible for all matters related to advanced medical training. This article focusses on the specific situation of anaesthesia training in Bavaria under regulation of the Federal Association of Medical Doctors in Bavaria (Bayerische Landesärztekammer/ BLAEK) since the approval of the new version of the specialist training regulations (Weiterbildungsordnung 2021/ WBO 2021)<sup>1</sup> came into force on 1<sup>st</sup> August 2022. At the same time the previously valid continuing education regulation from 2004 was repealed. It covers training duration, assessment methods, regulatory bodies, recertification programs, as well as strengths and future challenges.

## ACCEPTANCE PROCESS

Aspiring anaesthesiologists in Bavaria typically embark on their journey through an individual acceptance process. After completion of medical studies at a recognized medical university the candidates send their application to departments which are approved in anaesthesia training by the Federal Association of Medical Doctors in Bavaria (BLAEK) – ranging from outpatient departments and primary hospitals to tertiary hospitals and university hospitals. The maximum duration of the specialist's training in an approved department is acknowledged by the BLAEK according to the degree and amount of specific training content. Admission criteria for the trainees may vary among institutions, but often include academic performance, clinical experience, and personal interviews.

## TRAINING DURATION AND ORGANISATION

Anaesthesia training in Germany as well as in Bavaria spans typically five to six years. The training periods are extended individually if specialist training content cannot be

achieved in the minimum time. The organisation of training is overseen by the Federal Association of Medical Doctors in Bavaria (BLAEK) to ensure adherence to standardized training protocols and quality assurance.

While the acquisition of theoretical knowledge happens mainly on the individual initiative of the trainee e.g. via certified courses, a characteristic feature of the new specialist training is the in-depth application of medical knowledge in professional practice, therefore the anaesthesiologic departments offer hands-on clinical experience under the supervision of experienced anaesthesiologists.

Before the restructuring of the training process the description of the required specialist's training content in the form of "knowledge, experience and skills" sometimes made it difficult to determine the expected level of specific competence. Now, there is a rather practical differentiation between the two main competencies. On the one hand there is "cognitive and methodological competence (knowledge)" and on the other hand there is "competence to act (experiences and skills)".<sup>2</sup> The assignment of the individual training content to a competency-based model emphasizes self-directed learning and enables the trainee to identify where to achieve still higher levels of competence.

Interestingly, there is no strictly defined roadmap for the trainees how to go through the different surgical specialties, but it is organised by each training hospital either on a day-to-day base or on an individual departmental curriculum.

















To be eligible for the specialist exam the trainee must achieve the following learning objectives: (1) systematically classifying and explaining, (2) cognitive and methodological competence, (3) self-responsible implementation and (4) competence to act. This is documented in the eLogbook (Table 1), which is one of the key elements of this newly structured process. This electronic logbook is a web application from the German Medical Association (BAEK) and is adapted for any specialist discipline. It is also available in Bavaria, of course.

It is the trainee's responsibility to use the eLogbook to continuously document their training progress from the start of their specialist training. In addition, there is the possibility of completing a year outside the specific field in many areas to acquire skills that can be credited for the specialist training periods of at least three months, which contributes to making the individual training course more flexible. Those entitled to specialist education must provide the required skill set that was mentioned above as well as the capability to objectively check the documented number of benchmark figures in order to discuss them with the trainee.

## ASSESSMENT AND EVALUATION

Throughout the training period, anaesthesiology residents undergo regular, but non-formal assessments and evaluations to gauge their progress and competence. These assessments

**Table 1. Example of the eLogbook for Anaesthesia specialist training. (Translated and modified from WBO 2021)<sup>1</sup>**

Specialist for: <b>Anaesthesiology</b>							
Specialty definition: <b>n.a.</b>							
Training time: ____ months with an instructor at a certified specialist's training center (§5 p.1 s.2 with § 2a p.8)							
<b>Content of specialist training for specialist's competencies</b>							
Cognitive and methodical competence	Decision-making and responsibility	required number	verified number	name and describe	systematically classify and explain	carry out under guidance	carry out independently
General content of the specialist training for Section B, considering area-specific characteristics							
Common/specific content of specialist training							
<b>Training section</b>							
<b>aaa</b>		<b>x</b>	<b>y</b>				
	<b>bbb</b>	<b>x</b>	<b>y</b>				
<b>Training section</b>							
		<b>x</b>	<b>y</b>				
<b>ddd</b>		<b>x</b>	<b>y</b>				
<b>Further content, which exceeds the requirements</b>							
Cognitive and methodical competence	Decision-making and responsibility	required number	verified number	name and describe	systematically classify and explain	carry out under guidance	carry out independently
							
							

may include written exams, practical skills assessments, oral examinations, and clinical evaluations, but are not (yet) mandatory. Feedback from supervising physicians and peers also contributes to the overall evaluation process, ensuring comprehensive and objective assessment of residents' capabilities.

### MANDATORY COURSES

Anaesthesia training programs include mandatory courses covering e.g. crisis resource management (CRM) or transfer of ICU-patients. These courses may encompass special anaesthesia techniques like fiberoptic intubation, intraosseous access, pharmacology, patient safety, pain management, critical care, and medical ethics. Practical training in simulation labs further enhances residents' proficiency in handling complex clinical scenarios.

### RECERTIFICATION PROGRAMS

Specialists in anaesthesia are required to undergo periodic recertification to maintain their professional competence like any other medical specialist in Germany. Recertification programs typically involve continuing medical education (CME) activities, at least 250 points have to be gained within 5 years. Participation in these programs ensures that anaesthesiologists stay abreast of advancements in the field and uphold the highest standards of practice.

### STRENGTHS OF THE TRAINING CURRICULA

- Structured Curriculum:** The Bavarian anaesthesiology specialist training curriculum is well-structured, providing a clear roadmap for trainees to follow throughout their education. This structured approach ensures that residents receive comprehensive training in all relevant aspects of their specialty, covering essential knowledge, skills, and competencies;
- Comprehensive Clinical Exposure:** Anaesthesia training in Bavaria, Germany offers extensive clinical exposure, allowing residents to gain proficiency in diverse anaesthesiological specialties and critical care settings;
- Interdisciplinary Collaboration:** Emphasis on interdisciplinary collaboration fosters teamwork and communication skills essential for delivering integrated patient care.

### FUTURE CHALLENGES

- Workforce Shortages:** The growing demand for anaesthesia services coupled with a shortage of qualified professionals poses a challenge to the healthcare system, necessitating strategies to recruit and retain talented individuals;
- Technological Advancements:** Rapid advancements in medical technology require ongoing training and

**Table 2. Example of the curriculum for Anaesthesia specialist training. (Translated and modified from WBO 2021)<sup>1</sup>**

<b>Definition:</b> The field of anaesthesiology includes general, regional and local anaesthesia including pre- and post-treatment, the maintenance of vital functions during surgical and diagnostic procedures as well as intensive care, emergency medicine and pain medicine measures.		
<b>Duration of training:</b> 60 months of anaesthesiology under authority at approved institutions, thereof: - must be completed 36 months in anaesthesiology; - must be completed 12 months in intensive care medicine, of which 6 months can be spent in intensive care medicine in another area; - in order to acquire competence, an additional 12 months of specialist training in anaesthesiology and/or other areas must be completed.		
Cognitive and methodical competence	Decision-making and responsibility	Required number
General content of the specialist training in anaesthesiology		
Essential laws, regulations, and guidelines		
	Counselling of patients requiring palliative care	
Preanaesthesiological preparation		
	e.g. informing patients about the risks of anaesthesia procedures and medications and obtaining legal consent (...)	
	e.g. identification and management of relevant cardiovascular pulmonary, neurological and muscular risk factors (...)	
Anaesthesiological procedures and techniques		
	Airway management, technical measures for the treatment of the easy and difficult airway including difficult intubation (difficult airway), thereof	
	- fiberoptic techniques including fiberoptic intubations, up to 50% of this can be done through simulation	25
	- video-assisted intubation procedures	20
Anaesthesia-relevant ultrasound procedures, in particular emergency sonography, (...)		
	Performing anaesthesia-relevant ultrasound procedures for various measures, in particular for CVC placement, pleural puncture, (...)	50
	General anaesthesia and intraoperative ventilation including induction, intraoperative monitoring, (...)	
	Performing anaesthesia procedures, thereof	1800
	- for abdominal procedures	300
	- in patients with at least ASA 3 classification	100
Anaesthesia in neurosurgical and neurointerventional procedures		

adaptation to ensure optimal utilization and integration into clinical practice;

- 3. Evolving Healthcare Landscape:** Changing healthcare policies, economic constraints, and demographic shifts present challenges in resource allocation, patient management, and healthcare delivery models.

## CONCLUSION

Anaesthesia training in Bavaria, Germany is characterised by a structured and comprehensive approach that equips medical professionals with the skills and knowledge needed to excel in this demanding field. While this training curriculum boasts strengths such as extensive clinical exposure, interdisciplinary collaboration, and gaining responsibility, future challenges including workforce shortages, technological advancements, and evolving healthcare landscapes necessitate ongoing adaptation and innovation to ensure the delivery of high-quality anaesthesia care.

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TS, IP: Conception, design, writing, 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

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

*Todos os autores contribuíram de igual forma para o desenho e escrita do manuscrito. Todos aprovaram a versão final a ser publicada*

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