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*Editorial*

# Anesthesia specialty training in Belgium anno 2022 – time for revamping

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*'It is not the strongest species that survive, nor the most intelligent, but the ones most responsive to change' — Charles Darwin*

The medical profession has existed in one form or another for more than 25 000 years. Over these years, medicine has constantly evolved and human ingenuity has led to astonishing discoveries and new understandings. Whereas medical knowledge used to increase gradually, we are currently facing an exponential growth. The doubling time of medical knowledge was an estimated 50 years back in 1950, it accelerated to 19 years in 1991, 3.5 years in 2010, and in 2020 it was estimated to be only 73 days[1].

In the wake of medical knowledge, medical teaching and training have also undergone major developments which significantly challenged our traditional medical education system.

First of all, generation Y, born from the early 80s to the turn of the millennium, and generation Z, born after 1996, have changed the profile of the "traditional" student. These two generations grew up in a world characterized by an exploding and ubiquitous technology. Brought up with the internet at their fingertips, they challenge the traditional approach of education, and introduce information technology, serious gaming, and social media tools in medical education. Another effect of their acquaintance with internet and social media is that these generations are used to receive instant and frequent feedback. More than any other generation before, they appreciate feedback from their supervisors and value personalized learning. Last but not least, generations Y and Z treasure a good work/life balance, and remind us of a life beside work.

Working hours are restricted by the European Working Time Directive (EWTD) [http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX:32003L0088]. The EWTD has been converted into Belgian legislation on 12 December 2010. However, reports of multiple violations urged the government to publish a Ministerial Decree (21 July 2021) covering the minimal conditions that must be included in the contracts of medical specialists in training[2]. By preventing doctors from working very long hours, these regulations aim to improve well-being, quality of patient care, and patient safety. However, the consequence is a lower exposure to clinical work and hence decreased training opportunities.

This reduction of clinical exposure poses significant challenges to training programs[3]. Ideally, the restriction in working time should be addressed by maximising the learning benefit of clinical cases. This requires additional training modalities, such as simulation-based training and competency-based training.

Against common belief, skills-based medical education encompasses more than the development of just motor skills. The UK Assessment and Qualifications Alliance (AQA) defines skills as "skills that are commonly needed for success in a range of activities in education and training, work and life in general". Therefore, simulation-based medical education should comprehend technical, non-technical, social and multidisciplinary skills, that are teached and practiced in a safe learning environment, and with formative feedback from an experienced trainer. It requires a progressive build-up: from simple to complex, from isolated to integrated, from simulated to clinical practice, and from skills-oriented to competency-oriented. Obviously, simulation-based training requires a powerful learning environment and dedicated time. Training staff must have expertise in didactic teaching and more specifically in training and assessment methods particular to the area of skills education.

As stated above, skills-oriented training should progress to competency-oriented training. Traditionally, specialist training has been assessed based on time (time-based system) and numbers (count-based system). Nevertheless, according to the Union Européenne des Médecins Spécialistes (UEMS) basic principles, it is highly recommended to make teaching and assessment competence-based instead of time-based or count-based. Recently, the European Society of Anaesthesiology and Intensive Care (ESAIC) and the Anaesthesiology Section of the European Union Medical Specialists (EBA) have published a consensus statement on competency-based education and training in anesthesiology[3].

The prerequisite of competency-based education is that it must be dynamic, i.e. it should continuously be adapted to the individual's progress and learning needs. A trainee who does not meet the objectives must be allotted an individualized training program, taking account of his/her concurrent learning of specific competencies, his/her 'readiness' for new skill acquisition, and the program's capacity to provide clinical learning opportunities under supervision. Needless to say, a competency-based medical training program requires a degree of flexibility which goes far beyond that of a traditional time-based or count-based training.

Although simulation-based and competency-based education are internationally regarded as the way to go, a recent survey conducted by the European Society of Anaesthesiology and Intensive Care (ESAIC) Simulation committee showed that this kind of training is highly heterogeneous across Europe[4]. Majors barriers stated were financial restrictions, time issues, limited resources, and lack of human workforce. There might be a major role for (supra)national professional and scientific organisations in promoting this kind of training by organizing not only simulation-based learning activities for trainees, but also masterclasses targeting instructors and people involved in the training curriculum. Secondly, these organisations could take the lead by establishing a detailed curriculum and by defining recommendations on the prerequisites of training and trainers. Last but not least, national organisations should join forces to impact political and regulatory bodies in order to recognize and facilitate all aspects of simulation-based and competency-based training.

## Conclusion

Considering all these key developments, and given the fact that our learners' time does not expand, both trainees and trainers will need to learn and teach more effectively and efficiently. Focus should shift from the requirement of staffing a clinical service to a structured learner-centered educational process. In the words of Carol Black and Alan Craft, on behalf of the Academy of Medical Royal Colleges "The role of a trainee is to learn. All the work they do should be part of a training programme"[5].

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