UEMS Section and Board of Paediatric Surgery—A Historical Perspective

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Abstract

The European Union of Medical Specialists (UEMS) Section and Board of Pediatric surgery was founded more than 40 years ago. Since then major activities have been related to the improvement of quality of care of pediatric surgery in Europe. Remarkable success was achieved in the development of pediatric surgery as an independent specialty all over Europe. Other major successful activities of the UEMS Section and Board of Pediatric Surgery consisted of the development of a high-quality European examination and delineating a minimal common standard in pediatric surgery training in the form of European training requirements. Recommendations drawn from examination experience support that candidates who achieve weaker passes in part 1 may wish to consider more practice before attempting part 2 due to the weak correlation between the two scores. It may be helpful for candidates to consider having some experience working in an English-speaking clinical setting, if not truly fluent in English, to improve their chances of being successful in the part 2 examination. Other achievements of the Section were accreditation of the training centers in Europe and European Census in pediatric surgery project. All the aforementioned activities led to standardization and harmonization of pediatric surgery, as well as contributed to increasing quality of pediatric surgical service throughout Europe.

Keywords
- pediatric surgery
- UEMS
- training
- European training requirement
- examination

The Origin—Birth of UEMS and the Monospecialist Committee (1958–1992)

On July 20th, 1958, representatives delegated by the professional organizations of medical specialists in the six European Economic Community (EEC) countries convened in Brussels and created the European Union of Medical Specialists (UEMS). The scope of the new organization was the harmonization and improvement of the quality of medical specialist practice among European countries and the promotion of a high standard of clinical practice, pursuing the formulation of a common policy in the field of medical training, continuous medical education, and exchanges of trainees between countries, as well as addressing manpower problems throughout Europe.[1] On February 18th, 1978, pediatric surgeon representatives from eight out the nine EEC countries met in Brussels; this date can

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Table 1 Presidents

Monospecialist Committee
Andrew Wood Wilkinson (UK) 1978–1982
Jacques Borde (France) 1983–1987 (?)
Wolfgang Maier (Germany) 1988–1992
Section and Board
Juan Tovàr (Spain) 1993–1996
Robert Carachi (UK) 1997–2001
Ole Nielsen (Denmark) 2002–2003
Alexander Holschneider (Germany) 2004–2007
Gian Battista Parigi (Italy) 2008–2015
Piotr Czauderna (Poland) 2016–2020

Table 2 Secretaries/Treasurers

Monospecialist Committee
Jan Molenaar (Netherlands) 1978–1992
Section and Board
Hugo Heji (Netherlands) 1993–1995
Robert Carachi (UK) acting secretary 1996
Mechelien Rovekamp (Netherlands) 1996–1997
Gian Battista Parigi (Italy) 1998–2007
Tomas Wester (Sweden) 2008–2011
Piotr Czauderna (Poland) 2012–2015
Udo Rolle (Germany) 2016–2020

be rightfully considered the birthday of the UEMS Monospecialist Committee in Pediatric Surgery (MCPS). Professor A.W. Wilkinson (UK) was unanimously elected as President, Professor Jacques Borde (France) was elected as Vice President, and Professor Jan C. Molenaar (Netherlands) was elected as Secretary/Treasurer (►**Tables 1** and **2**). This paper is very much indebted to his historical reconstruction of the early years of pediatric surgery (PS) in the UEMS.[2]

The first accomplishment of the new committee was an agreement on training, including at least 3 years of general surgery and at least 3 years of PS, of which at least two were at the senior level. The newly established MCPS successfully struggled to safeguard the independence of PS as a specialty independent from surgery, in contrast to wishing to simply establish areas of "*competence*" within general surgery.

A New Momentum—the Sections and Boards (1993–2003)

The first years of the 1990s observed a blooming of initiatives at the European level. In those years, the UEMS created specialist sections and their working groups (European boards), devoted to dealing with all aspects of training in each specialty.[3]

The newly established *Section & Board of Pediatric Surgery* (S&BPS) thus gained a new momentum. Its statute was accepted by the national representatives at the General Council held in Leeds (UK), July 21, 1992, and formally approved under the presidency of Professor Juan Tovàr (Spain) in Madrid, January 30th, 1993.[4] The first accomplishment of the new section was to define a fundamental document for our discipline, "*The Scope of Paediatric Surgery,*"[5] which after a prolonged and sometimes harsh debate was eventually approved on October 27, 1995, by the General Council of the UEMS as document D9406.

In 1995, the UEMS published the *European Training Charter for Medical Specialists*, bringing together recommendations on postgraduate content and continuing medical education in the whole field of specialist medicine, and putting forward the idea of site visits to training centers, formally endorsed in the UEMS *Charter on Visitation of Training Centres* (Killarney, Ireland, October 24, 1997).[6] S&BPS was once again a forerunner of this initiative, having already realized its first *site visit* at the Graz Kinderspital (April 6, 1997–April 7, 1997). The local department of PS, directed by Professor Michael Höllwarth (Austria), was visited by a commission formed by the S&BPS executives professors Ray Fitzgerald (Ireland) and Ole Nielsen (Denmark). Prerequisites for the site visit to any center were set as follows:

- To have at least two trained pediatric surgeons.
- To be based in a university hospital or be associated with a university.
- To have available up-to-date facilities for pediatrics and subspecialties, pediatric anesthesia, child psychiatry, pediatric imaging, library with international journals and recent books, facilities for clinical and experimental research.

The result of the first visit was successful, and this experience paved the way for a long series of visits, including to date 35 training centers, nine of which were reaccredited after 10 years.[7] The essential meaning of these visits was not only to formally recognize centers of high standard but also to formulate recommendations, pointing out hospital weaknesses to help those responsible to overcome them and suggesting the number of people who could be reliably trained in each center.

Another highly relevant initiative was conceived and realized: the *European Register of Pediatric Surgeons,* based on a census of PS specialists throughout Europe. It aimed to foster the free movement of recognized professionals within European Union (EU) countries. It was decided to accept as such all colleagues endorsed by their national scientific societies accredited at UEMS, who have been specialists with at least 3 years of experience as of December 1, 1996. By the end of 1997, 995 pediatric surgeons from 17 EU countries were duly acknowledged by a diploma declaring their status as *Fellows of the European Board of Pediatric Surgery*. The UEMS fellowship, although did not have any legal value, was considered a mark of excellence.

Meanwhile, the *Handbook in Pediatric Surgery*, dealing with the status of our specialty and its training requirements, was constantly updated. Substantial differences among countries were found, with overcrowding of medical doctors and trainees in Italy, Germany, Greece, Spain and a lack of trainees in the United Kingdom, Netherlands, and (to a lesser extent) Portugal; in Austria, there was still fight about the definition of the field of our discipline. The fourth edition of the Handbook was published in 1999 and presented both as a booklet and as a dedicated page in the newly created website of the section.[8]

In 1998, the *European Journal of Pediatric Surgery was* appointed as the official section journal, thanks to its Editor and S&BPS Executive member Professor Alexander Holschneider (Germany). Realization of the European Register raised two new problems: how to deal with "new" pediatric surgeons and how to assess their competence.

The Examination of the European Board of Pediatric Surgery

The first examination of the European Board of Pediatric Surgery (EBPS) was held in Paris in October 1999. The initial examination consisted of five events all in one sitting each lasting 35 minutes including multiple choice questions (MCQs), a clinical examination, and three oral examinations: neonatal surgery, genitourinary surgery, and general PS. Six years later, in Paris, the examination process changed to a two-part format: Part 1 consisted of 100 written MCQs, about half of which were based on images or supplemental materials. Success in part 1 examination allowed the candidates to sit for the second part of the examination. Part 2 commenced with a hands-on live clinical scenario conducted in the hospital wards at the patient's bedside. This was followed by three oral examinations, general PS, neonatal surgery, and genitourinary, covering the whole pediatric surgical syllabus. In the last 2 years, the examination has gone through further changes aiming to make the examination more reproducible, structured, and fairer to all candidates. In addition, limitations to access the hospital wards due to European infection control guidelines and language barrier of the host European country, requiring interpreters at each clinical setting, have expedited the inevitable changes. Two years ago, in Mainz, the old format of the clinical examination, based on real patients and in the hospital wards, was replaced by a 45 minutes OSCE (objective structured clinical examination) covering four clinical scenarios of 10 minutes each: neonatology, urology, general PS, and oncology/trauma. Following the success of the new OSCEs-based clinical examination the whole format of the EBPS examination was changed in 2019 in Amsterdam. The examination now consists of three 60 minutes OSCEs-based stations: one in general PS and oncology, one in urology and traumatology, and one in neonatal surgery. At each station, four different clinical scenarios are shown to the candidate and a 15 minutes discussion will follow. From 2020, all instructions to candidates, radiological investigations, and any other additional clinical material will be given using tablet computers. Current composition of examination committee is shown in ►**Table 3**.

A previous review of the EBPS examination published in 2015 has already shown that most candidates registering for the EBPS examination are between 35 and 50 years, of male gender and many come from Arabic speaking countries.[9,10] In addition, the pass rate at first attempt for both part 1 and part 2 was 68 and 79%, respectively, but varied significantly depending on the country of training, with 100% pass rate for candidates trained in United States, India, or Ireland to 50% for candidates trained in Syria.[10] In a recent review of the EBPS examination results (2011–2018) the pass rate for part 2 EBPS has dropped to 72%.

Table 3 Current composition of examination committee European Board of Pediatric Surgery

Chairman	Robert Carachi (UK) Salvatore Cascio (Ireland)	1990–2016 2016–2020
Administrative coordinator	Rosemary MacKenzie	
Treasurer	Udo Rolle (Germany)	
Question master	Oliver Muensterer (Germany)	
OSCE coordinator	Mohamed Shalaby (United Kingdom)	
Examination committee member	Diane De Caluwe (United Kingdom) Tolga Dagli (Turkey) Udo Rolle (Germany) Mohamed Shalaby (United Kingdom) Alan Mortell (Ireland) Oliver Muensterer (Germany Lucas Krauel (Barcelona)	

Abbreviation: OSCE, objective structured clinical examination.
Source: www.paediatricsurgeryexam.org.

With the growing number of candidates each year, it was decided in 2019, to understand the factors associated with the success in the examination, to assess the correlation between performance in parts 1 and 2 of the EBPS examination, the effect of location of training, and the effect of language of training on part 2 EBPS examination performance. Information about candidates was reviewed from application forms over a 7-year period (2011–2018) and stored on a database. This data was then anonymized. To assess any correlation between part 1 EBPS and part 2 EBPS scores, a Pearson correlation coefficient was calculated and analyzed by linear regression. Significance testing for the effect of either country or language of testing in categorical tests (simply pass vs fail) was checked using Fischer's exact test. Unpaired *t*-tests were used to assess the significance of the effect of country or language of training on part 2 scores.

Our review showed a weak yet statistically significant positive correlation between part 1 and part 2 EBPS score, as despite the correlation coefficient being only 0.43, significance testing by linear regression showed this to be very crucial ($p < 0.0001$). This finding would indicate that the best performers in part 1 are likely to achieve pass grades in part 2 and similarly weaker performance in part 1 would predict lower scores/fail in part 2 (►**Fig. 1**).

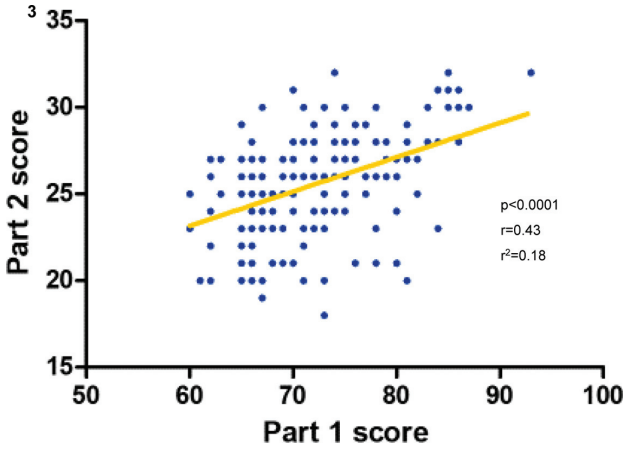

Fig. 1 Correlation between part 1 and part 2 EBPS exam score. Candidates for whom a part 1 score had not been supplied had to be excluded from this analysis. Pearson correlation analysis revealed a positive correlation between part one and part 2 EBPS exam scores, with 18.3% variability in part 2 scores being related to variability in part 1 scores, $n = 191$. EBPS, European Board of Pediatric Surgery.

Furthermore, the slight majority of candidates who applied for the EBPS examination (58%) were not trained in the EU. It was interesting to note there was no significant difference in the score or in the overall pass rate achieved by candidates whether they were trained within or outside Europe (►**Fig. 2**). The fact that whether training occurs within the EU or not does not affect examination performance is encouraging, suggesting that worldwide there is a high standard of training and clinical practice in PS, which can also be said for surgeons elected to work in Europe.

On the contrary, there were significant differences in the performance of candidates who received some training in countries where the language of clinical practice is English. Both the average score achieved, and overall pass rate were lower in candidates who had not completed any training in an English speaking country (►**Fig. 3**). This finding is consistent with previous work, which reported training in an English-speaking country to be the only positive indicator for success in part 2.

It is clear that the EBPS examination over the past 20 years has contributed to the development of a fair, objective, and standardized assessment in PS which could be used to replace individual national examination in PS across the EU.

European Pediatric Surgery In-Training Examination

To support candidates who wish to study and prepare for the examination, in 2019, a specific project in cooperation with the European Pediatric Surgical Association was created. The *European Pediatric Surgery In-Training Examination* (EPSITE) was made available to all pediatric surgical trainees and established pediatric surgeons in Europe who would like to assess their level of knowledge.[11] EPSITE is designed for all candidates who wish to prepare themselves to sit for the EBPS Examination.

Another huge field of activity was represented by the *Continuous Medical Education-Continuous Professional Development (CME-CPD)*. The charter on CME had already been

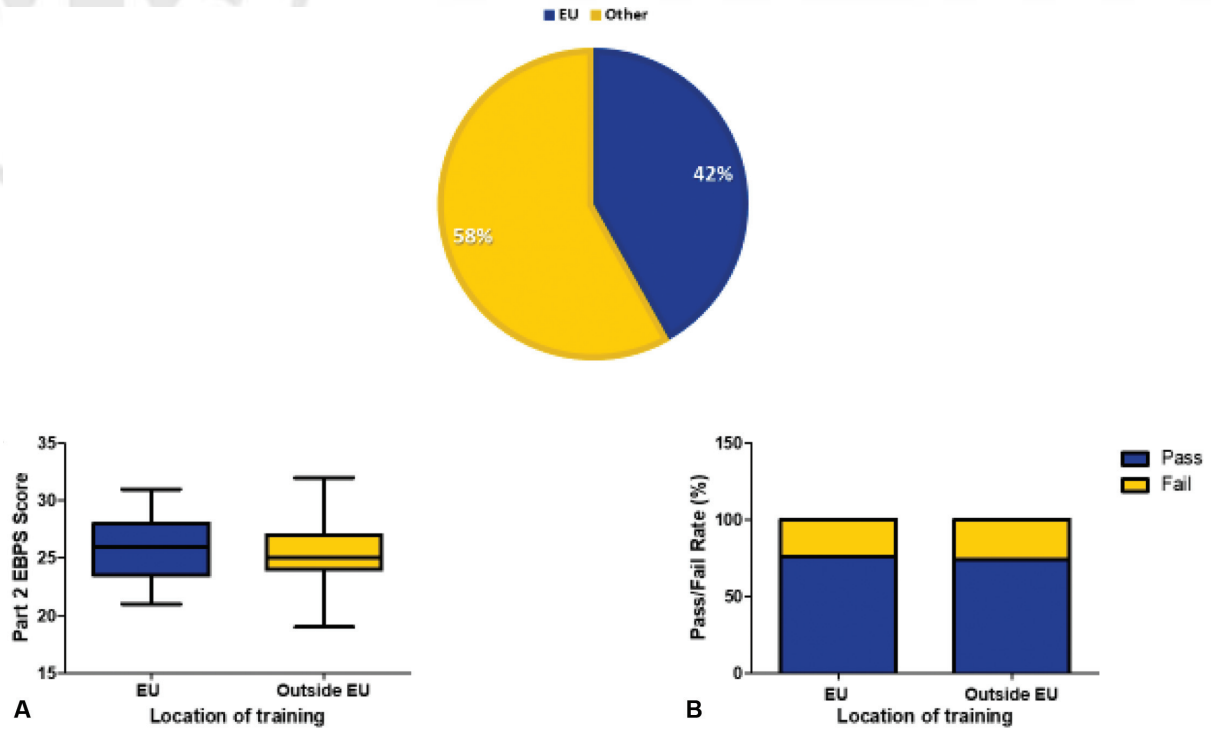

Fig. 2 Effect of EU training vs non-EU training on outcome in part 2 EBPS exam. ►**Figure 2A** shows the proportion of candidates who trained in the EU vs those who did not. ►**Figure 2B** shows the effect of location of training on score in part 2 of the EBPS exam, which was insignificant when analysed by an unpaired t test. Error bars represent range. ►**Figure 2C** displays that there was no effect on absolute pass rate between candidates who trained in the EU vs those who did not, $n = 117$. EBPS, European Board of Pediatric Surgery; EU, European Union.

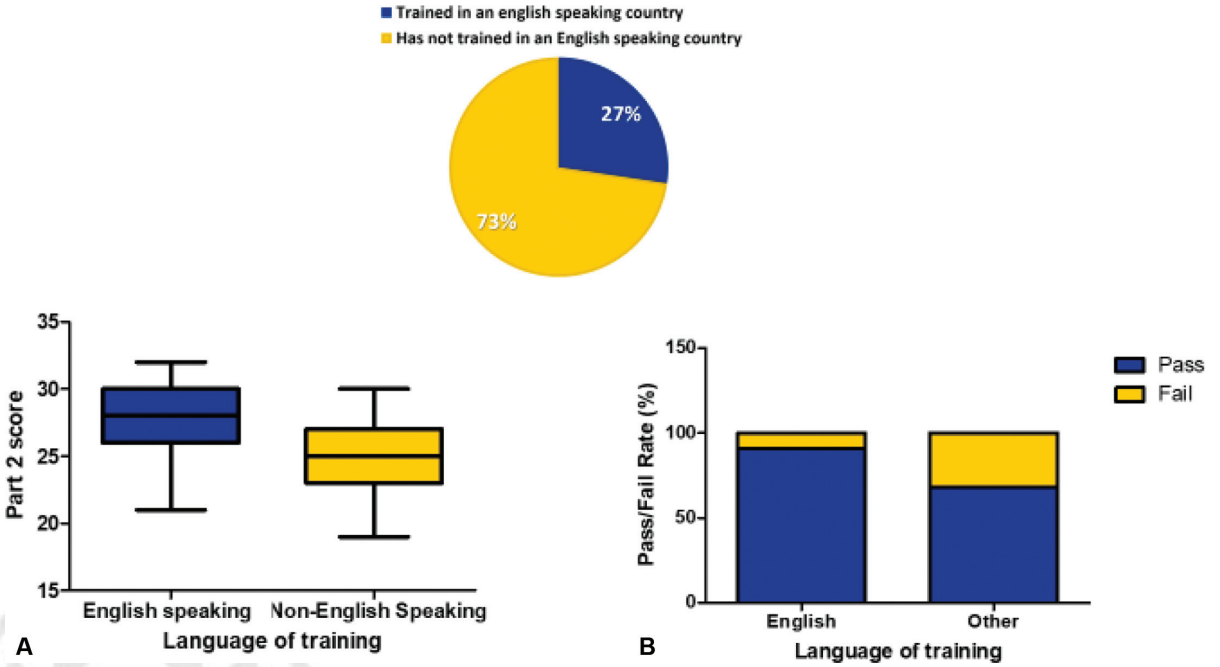

Fig. 3 Effect of Language of training on Part 2 EBPS exam score. ►**Figure 3A** shows the proportion of candidates who had completed training in an English-speaking country compared with those who had not. ►**Figure 3B** shows the difference in the scores achieved by candidates which was statistically significant. ($p < 0.0001$) Error bars represent range. ►**Figure 3C** shows the pass rates in part 2 of the EBPS exam, demonstrating a 23% reduction in the pass rate amongst candidates who did not complete any training in an English-speaking country, ($p < 0.0001$). EBPS, European Board of Pediatric Surgery.

approved by the UEMS Management Council in its London meeting on October 28, 1994; the European Accreditation Council for Continuing Medical Education was then created in October 1999.[12]

New Challenges of an Ever-Growing Europe (2004–2018)

With its enlargement in 2004, 2007, and 2013, the EU was entering a new era, but stale and outdated claims against the very existence of PS went on. On July 21, 2003, a formal letter was sent to the Norwegian government through the National delegates, reporting about the proposal of cancelling PS as an independent specialty and again splitting it amongst general surgeons. The section took a strong stand against this attempt, and after a short while the section was happily informed of the Norwegian government's decision to withdraw the proposal. A similar situation took place in September 2015 in the Czech Republic: the same blocking action was undertaken, and the same favorable result was obtained, again guaranteeing the survival of PS at the national level. Another similar situation took place in Bulgaria on February 6, 2006, when the President of the Bulgarian Society of Thoracic Surgery requested as mandatory a further graduation in Thoracic Surgery for all certified pediatric surgeons wishing to perform thoracic interventions in children and neonates, i.e., esophageal atresia. The section strongly reacted, and the claim waned after a few days, only to reappear in Slovenia, where pediatricians and general surgeons joined forces to hamper the recognition of PS. The section was formally applied to the Slovenian Ministry of Health, strongly supporting the recognition of PS as an independent specialty as the long-time established European standard. The appeal was again successful.

With new countries joining EU a clear definition of the content of PS and how its training should be organized, seemed to be crucial and yielded the *European Syllabus of Pediatric Surgery* presented first at the IX European Congress of Pediatric Surgery (Istanbul, June 18–21, 2008). The syllabus was the first such document proposed by the UEMS section, and many years later *European training requirements* became a must for virtually all medical specializations in Europe.[13]

The ongoing brilliant experience with the European examination prompted the idea of gathering experiences from all sections performing such examination s. On February 18, 2007, 16 delegates of nine UEMS sections, including PS, met in Glasgow and created the *Council for European Specialist Medical Examination* (CESME). The new body was intended as an instrument to share experiences and expertise among those sections already performing European examinations, with the scope of defining the best ways and the highest standards with which to assure the quality of newly appointed medical specialists throughout Europe. All these proposals merged in the CESME manifesto, the so-called *Glasgow Declaration*. In 2008, the new body changed its name in CESMA, modifying the last E for "Examination" to A for "Assessment."

In 2009, another landmark initiative of the S&BPS was launched: to build a questionnaire to determine how PS and its training and manpower was organized in Europe. Development of the *European Census in Pediatric Surgery*[14] allowed us to realize a database of 431 European centers of PS, of which half (215) answered the questionnaire. As

stated in the conclusions, the study convincingly demonstrated how far the profession still must go for a full harmonization of PS in Europe.

Past and Future

Looking backward, one may ask whether it has been worthwhile to realize all these activities. UEMS today represents 1.6 million specialists from 40 countries and 43 medical specialties. The European Register enumerates today fewer than 1,500 pediatric surgeons all around Europe, approximately 0.1% of the total number of medical specialists. A handful of pediatric surgeons, no matter how highly motivated and committed, can hardly hope to have their voice heard in European arenas of power. However, *"togetherness makes strength"* and, in many instances, pediatric surgeons represented through the UEMS obtained results well beyond the "specific weight" of our discipline.

Conflict of Interest
None declared.

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