Training, certification and practice of cardiac and thoracic surgeons in Europe: a comparison of the members of the European Association for Cardio-Thoracic Surgery and the European Society of Thoracic Surgeons

Douglas E. Wood,*, Farhood Farjah

*Division of Cardiothoracic Surgery, University of Washington, Seattle, WA, USA
bDepartment of Surgery, University of Washington, Seattle, WA, USA

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Abstract

Background: There is little knowledge around the world about training and certification for general thoracic surgeons, and the relationship between thoracic surgery and cardiac surgery. Examination of the membership of European Association for Cardio-Thoracic Surgery (EACTS) and European Society of Thoracic Surgeons (ESTS) can clarify the training, practice and academic activity of European thoracic surgeons, as well as the similarities and differences between these two professional societies. Methods: A 38-item survey was designed to assess training, practice, demographics and relationships of general thoracic and cardiac surgeons in EACTS and ESTS. Results: A total of 447 respondents were tabulated from the EACTS (N = 238) and ESTS (N = 141) or both (N = 68). As many as 33% of ESTS members were also members of EACTS, while 22% of EACTS members were members of both societies. ESTS members were younger but had similar numbers of female members (6% EACTS vs 9% ESTS). ESTS members self-designated as exclusive general thoracic surgeons (80%) compared with 33% of EACTS members (p < 0.001), although 38% of EACTS members had practice patterns consistent with a dominant general thoracic practice. ESTS members are board certified in cardiac (29%) or thoracic surgery (83%) compared with 72% and 71% for EACTS members, respectively. ESTS members were more likely to perform oesophageal surgery as a significant portion of their practice (46% vs 26%, respectively, p < 0.001). Median length of specialised cardiac and thoracic training was 4 years for both society memberships, although the median length of total surgical training was 1 year longer for EACTS members (6 vs 7 years). Practice in an academic setting and the number of peer-reviewed manuscripts was similar amongst memberships in both societies. Conclusion: Members of EACTS and ESTS are very similar in length of training, board certification and academic practice and activity, although they have expected practice variation, given the different membership focus and demographics. Both societies provide important education and advocacy services for their members. Increased co-operation may further propagate improvements in cardiothoracic education and improve patient access and outcomes through shared specialty advocacy.

Keywords: Training; Certification; EACTS; ESTS

1. Introduction

The European Association of Cardio-Thoracic Surgery (EACTS) and the European Society of Thoracic Surgeons (ESTS) were founded in 1986 and 1993, respectively, with the goals of creating strong professional societies extending beyond national boundaries and dedicated to promoting and supporting the cardiac and thoracic surgeons in Europe. The two societies share several founding members, have overlapping memberships, publish in the European Journal of Cardio-Thoracic Surgery (EJCTS), support the European Board of Thoracic and Cardiovascular Surgery (along with the European Society of Cardio-Vascular Surgery) and for several years held combined annual meetings. However, EACTS and ESTS have different origins, constituency, specialty focus, graduate training schools and separate leadership and meetings that create the potential for competition and conflict.

Training and certification of cardiac and thoracic surgeons varies widely between countries, and there exist significant differences from one European country to another. In some countries, cardiac and thoracic surgery are a common specialty with combined training as in the United States, while in others, cardiac surgery is a separate field of cardiovascular surgery with little link or relationship with general thoracic surgery. On the other hand, thoracic surgery may be considered a subspecialty of general surgery, a specialty distinct from both general surgery and cardiac...
surgery, or have varying degrees of relationship with cardiac surgery. This heterogeneity not only creates the strength of diversity, but also results in substantial challenges to the European cardiothoracic societies in their efforts to provide relevant scientific meetings and appropriate representation and advocacy for their respective memberships. An international survey of members of the EACTS and ESTS was conducted to assess similarities and differences in demographics, training, certification, practice and academic and professional relationships within the memberships of the two associations.

2. Methods

A 38-item survey was designed to assess training, practice, demographics and relationships of general thoracic and cardiac surgeons and has already been described [1] (included as e-appendix 1). Survey questions included demographics, total and cardiothoracic (CT) specific length of training, board certification status, current and previous specialty practice, opinions on cardiac and thoracic inter-relationships, academic versus private practice and number of peer-reviewed manuscripts in a 5-year period.

Eighteen CT societies representing surgeons on six continents were contacted and 15 submitted the survey to their membership. The survey was advertised through CTSnet by a survey notice on the CTSnet home page, in the CTSnet Thoracic Surgery Portal and in the CTSnet newsletter. Survey results were collected over a 6-week period in March and April 2008 and were collated electronically. Participation was anonymous and voluntary. For purposes of evaluating the memberships of the EACTS and ESTS, only respondents self-designating as members in one or both of these organisations were included in this analysis.

STATA (Special Edition 9.2, Statacorp, College Station, TX, USA) was used for all statistical analyses. Categorical variables were compared using the chi-square test.

3. Results

A total of 1520 survey respondents were tabulated, representing 95 separate countries on six continents. As many as 447 (34%) respondents self-designated as being members of EACTS only (238, 53%), ESTS only (141, 32%) or both EACTS and ESTS (68, 15%). Twenty-two percent of EACTS members were younger (<51 years old, 75% vs 59%, p < 0.001) (Fig. 1) and had similar percentages of women (8.6% vs 5.6%, p = 0.185). ESTS members more commonly described a practice of exclusive general thoracic surgery (80% vs 33%, p < 0.001) or a practice dominant (>90%) in general thoracic surgery (91% vs 38%, p < 0.001). ESTS respondents more commonly self-described a moderate-to-major practice in oesophageal surgery (46% vs 26%, p < 0.001), were more likely to be board certified in thoracic surgery (83% vs 71%, p < 0.001), but were less likely to be board certified in cardiac surgery (29% vs 72%, p < 0.001).

ESTS and EACTS respondents reported a nearly identical sequence of specialty training as occurring after completion of general surgery training (53% and 52%, respectively) versus a specialised programme directly after medical school or after a limited (2–3 years) period of core surgical training. Median duration of total surgical training was 1 year less for ESTS members (6 vs 7, p = 0.015) (Fig. 2), but the same for specialty specific surgical training (4 years for both) (Fig. 3). ESTS respondents spent less time in senior-level cardiac-surgery rotations during their training, as would be expected for specialists training in general thoracic surgery, but there was also a fairly heterogeneous experience in senior cardiac training amongst EACTS members (Fig. 4). ESTS and EACTS members both frequently obtained a portion of their CT training outside their own country, but ESTS respondents did so slightly less commonly (40% vs 53%, p = 0.004), although ESTS had a higher rate of desiring training outside their country (81% vs 71%, p = 0.045).

ESTS and EACTS members felt to a similar degree (88% and 94%, respectively) that cardiac surgical training was at least moderately important for the practice of general thoracic surgery, but ESTS members less commonly felt that it was ‘very important’ or ‘essential’ (29% vs 46%, p < 0.001). Similarly, ESTS members were less likely to report existing close collaboration between cardiac and thoracic surgeons in the areas of public policy, specialty advocacy and education (41% vs 62%, p < 0.001) and fewer chose cardiac surgeons as the best allies in these same arenas (35% vs 61%, p < 0.001).

Respondents in both societies reported a similar and high percentage of practice in an academic setting (87% ESTS and
Papers from the EACTS meeting, and to provide a European Journal for European authors otherwise limited to smaller national journals without wide readership, or to publishing overseas (Borst HG. The European Journal of Cardio-Thoracic Surgery: How it all began ... 20 years ago. http://www.eacts.org/doc/10846 accessed 22 May 2009).

Prior to the founding of EACTS, several European leaders in general thoracic surgery organised the European Thoracic Surgery Club, first meeting in 1979 with the purpose of promoting general thoracic surgery in Europe. The membership was small and exclusive, but led to major international collaboration in general thoracic surgery and to the publication of the outstanding series of books titled 'International Trends in General Thoracic Surgery'. The creation of the EACTS provided a larger organisation with a broader scope, and with the goal of representing both cardiac and thoracic surgery. In fact, several of the founding members of the European Thoracic Surgery Club were also founding members and initial officers in EACTS. However, by 1990, there was a sense of disillusion amongst some of the EACTS general thoracic membership regarding the thoracic content of the annual meeting and a disappointment at the dominance of cardiac surgeons in the leadership of the Association. In 1993, a European Consensus Meeting and Foundation Session was held in Heidelberg during a meeting linked to the German Society for Thoracic Surgery — The European Conference on General Thoracic Surgery (Laureano Molins, President, ESTS, personal communication 14 May 2009). This became the first meeting of the ESTS, now the largest professional society of general thoracic surgeons in the world, with a membership of nearly 1000 surgeons.

In the second presidential address of EACTS, Dr Moghissi prioritised several areas within the Constitution, declaring that 'there are problem areas which, if not dealt with at this stage of our existence will become insoluble when the initial energy and enthusiasm are laid over by the inevitable dust of time [3]'. Dr Moghissi identified four problem areas which he felt were paramount for the success of EACTS. These included Eastern European involvement, propagation of scientific and technical development and maintenance of the journal, development of financial stability and 'continuing stability of the Association in the achievement of a realistic balance between the components of cardiac and thoracic surgery [3]'. Dr Moghissi expanded that 'it was obvious to many that a European Association pertaining to the specialty of either cardiac or thoracic surgery alone would have little or no chance of success for obtaining sufficient support for the achievement of independent existence. The Constitution was, therefore, planned in such a way as to allow a realistic partnership, both in terms of representation on the council and in inclusion in the programmes of scientific meetings, between cardiac and thoracic surgery ... there are sharp dividing lines and disparities between certain areas of the two disciplines, but it is necessary to appreciate that at this time the partnership of cardiac and thoracic surgery is the best combination for the success of our Association [3]'.

The 1980s were truly the heydays of cardiac surgery in both Europe and in North America. Although cardiac surgery evolved from the specialty of general thoracic surgery, the ability to correct previously untreatable valvular heart disease and the development of coronary bypass surgery led to an
explosion of innovation and a proliferation of cardiac surgery programmes. Thoracic surgery was overshadowed by the 'whiz kid' of cardiac surgery. With the exponential growth of cardiac surgery combined with productive and relevant research and the high status of cardiac surgeons, it is not surprising that the trainees flocked to the specialty and that our scientific programmes were dominated by cardiac surgery research and clinical reports [4]. However, this had the equally predictable effect of creating a disenfranchised group of general thoracic surgeons who, on the good side, felt underrepresented and inadequately served by our professional societies and meetings, and on the bad side, were jealous of being upstaged by their cardiac surgery colleagues. Thus, in spite of the best intentions of the founders and leaders of the EACTS, general thoracic surgeons became progressively disillusioned with their representation and with the programme content of the annual meetings. This, of course, is likely to be disputed by others with a different and perhaps better informed perspective. However, this disillusionment is not meant to be pejorative or inflammatory, or even critical, and is simply an understandable imbalance in the relationship between cardiac and thoracic surgery colleagues during this time. It is important to note that this disillusionment of general thoracic surgeons was not unique to Europe. At the same time, North American general thoracic surgeons felt disenfranchised because of the very small amount of general thoracic content at the annual meetings of the Society of Thoracic Surgeons (STS) and the American Association for Thoracic Surgery (AATS). This led to the founding of the General Thoracic Surgical Club in 1988, created to fill the vacuum felt by thoracic surgeons desiring a forum for scientific and clinical presentations and professional interactions.

Much has changed in a short span of 20 years. Although cardiac surgery remains a prominent and preeminent surgical specialty, its status has diminished. In some eyes, this lowering of status is an unfair swing of the pendulum too far, a punitive reaction to cardiac surgery’s glorious days, while others see this as a normalisation of cardiac surgery to more productive and relevant ‘whiz kid’ of cardiac surgery. With the exponential growth of programmes. Thoracic surgery was overshadowed by the explosion of innovation and a proliferation of cardiac surgery combined with productive and relevant research and the high status of cardiac surgeons, it is not surprising that the trainees flocked to the specialty and that our scientific programmes were dominated by cardiac surgery research and clinical reports [4]. However, this had the equally predictable effect of creating a disenfranchised group of general thoracic surgeons who, on the good side, felt underrepresented and inadequately served by our professional societies and meetings, and on the bad side, were jealous of being upstaged by their cardiac surgery colleagues. Thus, in spite of the best intentions of the founders and leaders of the EACTS, general thoracic surgeons became progressively disillusioned with their representation and with the programme content of the annual meetings. This, of course, is likely to be disputed by others with a different and perhaps better informed perspective. However, this disillusionment is not meant to be pejorative or inflammatory, or even critical, and is simply an understandable imbalance in the relationship between cardiac and thoracic surgery colleagues during this time. It is important to note that this disillusionment of general thoracic surgeons was not unique to Europe. At the same time, North American general thoracic surgeons felt disenfranchised because of the very small amount of general thoracic content at the annual meetings of the Society of Thoracic Surgeons (STS) and the American Association for Thoracic Surgery (AATS). This led to the founding of the General Thoracic Surgical Club in 1988, created to fill the vacuum felt by thoracic surgeons desiring a forum for scientific and clinical presentations and professional interactions.

In Europe, there is marked heterogeneity in the training and certification of cardiac and thoracic surgeons and a wide variation in the relationship, or lack thereof, between cardiac and thoracic surgeons. This contrasts significantly from the interactions in the United States where cardiac and thoracic surgeons uniformly share the same training, certification and professional societies, usually work in combined departments and frequently intermingle a practice of cardiac and thoracic surgery [1]. In the United States, a feeling that the elite and academic membership of the AATS did not adequately represent the ‘average’ CT surgeon led to the founding of the STS in 1964, and a dissatisfaction with the general thoracic representation in both organisations led to the founding of the General Thoracic Surgical Club (GTSC) in 1988. In Europe, one organisation, the EACTS, purports to represent the whole specialty of CT surgery, with three ‘domains’ of cardiac, general thoracic and congenital cardiac surgery, while the ESTS is specifically focussed on the training, practice and research within general thoracic surgery. Both the US and European arrangements create the potential for competition and conflict between associations in spite of the most sincere intent of co-operation and collaboration. However, in the United States, the societies involved have a major overlap of membership and a nearly identical focus across the specialty of CT surgery, while in Europe, the memberships are largely distinct and the two societies overlap only in the area of general thoracic surgery. This can lead to perceptions of membership characteristics that may influence or magnify the perceived differences between the two societies, rightly or wrongly.

The differences between the memberships of EACTS and ESTS appear superficial and expected. Demographics show a similar number of women members but the ESTS with an overall younger membership. As expected, the ESTS members more commonly are certified and practice in general thoracic surgery, and more commonly perform oesophageal surgery. However, a majority of EACTS members responding to this survey were board certified in thoracic surgery and a significant percentage had an exclusive or dominant practice in general thoracic surgery, providing validation of the role and inclusion of thoracic surgery in EACTS. EACTS members were more likely to train overseas and belong to the major North American CT societies, perhaps showing that international connections gained in training extend to international society membership during one’s career. However, the ESTS members expressed a higher percentage of desire to obtain training outside their home country. It is possible that this may represent different opportunities for overseas training based on subspecialty, country of origin, economic or other unknown factors.

The similarities between EACTS and ESTS memberships are striking, in spite of a minority of individuals with cross membership in both associations. The median length of specialty training (4 years) was the same for both groups. The median length of total training was 1 year greater for EACTS members (7 vs 6 years), but when one looks at the mean length of total training, the difference was only 0.4 years (6.9 vs 6.4 years), a statistically significant but practically insignificant difference. Similarly, academic practice and productivity is nearly identical, with a majority of both memberships reporting an academic site of practice and a
This study has several potential weaknesses as are inherent in most voluntary surveys. First, although the leadership of both the EACTS and ESTS were both extremely supportive and helpful in distributing this survey to their members, a minority of members actually completed the survey: 16% from EACTS and 23% from ESTS. Therefore, although there were a large number of responses allowing statistical comparison, it is impossible to be confident that the respondents were truly a representative sample of the respective organisation. Second, this survey was directed towards general thoracic surgery and its interactions and relationships with cardiac surgery. Therefore, there may have been a predisposition in respondents, particularly from EACTS, with an interest or focus in general thoracic surgery that may bias the responses and the apparent percentage of general thoracic surgeons. Finally, a voluntary and anonymous survey has the benefit of confidentiality and candour, but provides no mechanism for audit or verification of the self-reported responses. Nonetheless, the authors are not aware of data that disputes the findings of this study and feel that the findings are fundamentally correct in spite of the potential inherent flaws of survey analysis.

The ESTS and the EACTS are both powerful and growing organisations that serve an important constituency of cardiac and thoracic surgeons in Europe and beyond. Membership in one organisation is far more common than membership in both societies, and memberships of the two associations show both similarities and differences. There are the expected differences in certification and practice, but substantial similarities in length of training, academic practice and academic productivity. The ESTS and EACTS are more common than different. As in the United States, collaboration as separate but equal societies offers synergy in education, public policy and advocacy for both cardiac and thoracic surgeons, with ultimate benefit to surgeons and to their patients.

References


Appendix A. Conference discussion

Dr J. Gerritsen (Groningen, Netherlands): I am president of the European Respiratory Society. It was very interesting what you told us about the survey of practicing in fact thoracic surgery. We have the same in the European Respiratory Society already many years ago, and then we started the development of a curriculum just for training. Are there any plans in your organisation to start a curriculum just to have, for example, guidelines? Recently also we started an exam, a Hermes Exam, on European respiratory diseases. Maybe that is something which can be developed, because then you have sort of, unanimously, education and curriculum all over the world, or Europe.

Dr Wood: Well, I am not the best person to comment on that because of being an American and not really an officer or leader of any of the European organisations. But I do know some of what ESTS and EACTS are doing, and ESTS has a school for educating trainees and junior faculty that is a terrific education that is held each year. ESTS also the most prolific and useful set of guidelines development in general thoracic surgery. So this is work that the ESTS has been very proactive on in education, both for trainees as well as setting guidelines to help in practice for practitioners across Europe, and the ESTS has been a key participant in the European Board of Cardiovascular and Thoracic Surgery as well. So I think that all those things that you bring up, ESTS has had a leadership role in, and I apologise if I have missed any of the key points.

Dr T. Lerut (Leuven, Belgium): That was a nice presentation, and I think it simply confirms that, indeed, thoracic surgeons, whether they belong to EACTS or ESTS, have always tried to look at the similarities. Indeed some of us have been in the midst of all these efforts that were reflected by the joint meetings. Of course, much is in the hands of the leadership of the two societies, and I suspect that you are going to make this presentation in October in Vienna as well. So I hope that your presentation there will stimulate the EACTS leadership so that both parties will come together in taking new initiatives on your conclusions about the importance of collaboration on an international level.

Dr Wood: Well, I appreciate your comments. My position has usually been pretty clear. In spite of the differences that we have with our cardiac surgery colleagues — and we have a lot of differences, and I am just talking about different referral patterns, different physiology, different relationships politically and in the hospital — individually we are very small groups, and I think that working together as much as we can, even when there are some rough edges, ultimately improves us overall. I think thoracic surgeons have a lot to offer to cardiac surgeons in terms of education and collaboration, but, likewise, I think the cardiac surgeons have a lot to offer us and that we benefit from. And so our ability to cross those boundaries and work together more is to all of our advantage, in my opinion.

Appendix B. Supplementary data

Supplementary data associated with this article can be found, in the online version, at doi:10.1016/j.ejcts.2009.09.004.