First Summer School of the Theodor Billroth Academy ®

Björn Brücher (Translation of the Press Release within the "Mitteilungen 08/2008" by bb)

In 2008, the **Theodor Billroth Academy** was founded and a *Summer School* was held as its first module. The major reasons for establishing the Academy were:

- A need to provide active support for training in the discipline of surgery
- A need to actively encourage interest in the field of surgery among students

Only about 5% of medical students see their future as lying in the field of surgery after their degree examinations. To counteract this shortage of recruits, the *First Summer School* of the **Theodor Billroth Academy ®** was held in Tübingen in 2008. The focus was on active learning of surgical skills and an introduction to academic surgery. A questionnaire survey conducted in 2007 by a journal for medical students, *Via Medici*, showed that there are clear deficiencies in medical training. It is unhelpful to go on repeating descriptions of the unsatisfactory scenarios currently being experienced — what is needed is action to achieve improvements and open up new prospects. When medical students receive their licence to practice, they increasingly have other options open to them today apart from working only in the medical field. Business, the consultancy industry and journalism are also attracting more and more medical graduates. Better earnings, along with working hours that are more compatible with family life, are frequently mentioned as reasons for the declining numbers of young doctors entering practical medicine.

These developments are also leaving their mark on surgery, of course. The new regulations for the licensing of physicians in Germany have not made any difference here. The growing exodus of highly qualified German physicians to other countries in Europe and to the English-speaking countries clearly shows that public statements of concern alone are no longer enough. Questionnaires have shown that only about one in 20 graduates (5%) in any given year want to go into the field of surgery — far too

few to ensure patient care and surgical research in the longer term. It is also obvious that a public policy that is aimed at reducing the numbers of medical students will in the future also be felt in surgery as a "negative rebound," since in relative terms even fewer will then be entering surgery or even academic surgery.

The approach described here thus represents an active response aimed at countering such developments.

The first step involved establishing the **Theodor Billroth Academy ®** and holding its first Summer School to support a new generation entering academic surgery.

Name of the Academy

The word "academy" comes from the ancient Greek hero Academos, who saved Athens from being destroyed by Helen's twin brothers Castor and Polydeucis. Theseus had kidnapped the beautiful Helen (aged 12) and hidden her away, and her brothers were threatening to destroy Athens. Academos knew the hiding-place and revealed it to the brothers. He was therefore revered as the patron and saviour of Athens. A sacred grove was dedicated to him in front of the city gates in the north-west of Athens (where he was also said to be buried). In 388 BC, Plato purchased the olive grove and made it into a philosophical garden — i.e., a discussion forum for his pupils. He later had a school built there, which became an academic college and was later called "academy." This shorthand term has persisted to the present day for educational institutions established by scientific societies and in the word "academic."

Theodor Billroth (1829–1894) was not only a nationally and internationally well-known surgeon. During his career, he succeeded in establishing a practice that had previously been unthinkable in surgery: he documented not only every single operation, along with its complications and problems, but also published the data in order to stimulate critical debate. His approach led to heated discussions in the recently founded German Association for Surgery, and the transparency it created allowed open debate on the topic of postoperative morbidity. Theodor Billroth can therefore be regarded as one of "the" founders of scientific surgery. The name thus implies that the **Theodor Billroth Academy ®** also intends to play an active part in the future in relation to young physicians entering the field of scientific surgery.

Selection procedure

Students from the Federal Republic of Germany were able to apply to take part after the most important information was presented on our web site. The flow of information to medical students was arranged through *Via Medici* and the German Federal Association of Medical Students. Fifty-one students applied, 24 of whom were invited to take part in the Summer School. Two students had to cancel for family reasons.

Time frame, target group

The target group for the two-week summer school consists of medical students in their final preclinical and first clinical semesters. Successful completion of an anatomy qualification is a prerequisite for participation. It is particularly at this early

stage of medical training that an interest in the field of surgery can be actively promoted.

Finance

Main sponsor

Covidien Germany Ltd. financed the *First Summer School* in 2008. Apart from travel costs, all of the students' expenses, including accommodation and social events, were met in full. Costs for preparation work were also fully met. In addition, Covidien made members of the company's own staff available during the 2-week Summer School.

Additional support

- Dr. R. Kaden-Verlag Ltd., Heidelberg (Norbert Kraemer, Christian Molter)
- Erbe Elektromedizin Ltd., Tübingen
- Porsche Ltd., Stuttgart

Program of the First Summer School

The program consisted of a practically oriented section and an elaborate combination of various clinical lectures and lectures with scientific content (part of the future second module for the **Theodor Billroth Academy ®**; see below). Most of the noted German surgeons and scientists who were approached immediately offered their active support for the project. The program included clinical lectures and tutorial working lectures in the fields of training in surgery, health-care system and management, wound healing and anastomosis healing, a well thought through four-stage suturing course, surgically oriented anatomic dissection in cadavers, laparoscopic surgery, endoscopic surgery and pathology, immunology, oncology, surgical oncology, and biometry. The tight program was rounded off with various social events — both to provide the recreation needed and also to give students an opportunity to have direct and open exchanges of views with the available tutors as equals and to prevent barriers arising.

Lectures on the topic of surgical training, which are not included in the medical curriculum, were given by Prof. Bauer (Berlin), General Secretary of the German Association for Surgery; and by Dr. Ansorg (Berlin), Director of the Federal Association of German Surgeons.

Another group of topics not included in the medical curriculum, although it is a vital one, involved lectures on the health-care system in Germany, given by Dr. Spaeth (Former President of the Supreme Auditing Office of Bavaria, Munich) and Mr. Strehl (Director of Tübingen University Hospital).

Important basic lectures in surgery were concerned with basic wound and anastomosis healing. In parallel with the suturing course (parts I–IV), these provided an important basis for understanding the anastomosis exercises using both the manual technique (suturing course III) and machine anastomosis (suturing course IV).

Practical introductions were offered (1) in the four-stage suturing course (I–IV) and (2) in surgically oriented anatomic dissection on cadavers (in collaboration with the Department of Anatomy in Tübingen), in laparoscopic surgery (with the Laparoscopy Training Center, Tübingen), and endoscopic surgery. The suturing course was divided into (I) instrumentation and basics; (II) suture exercises on the swine foot; (III) manual suture anastomoses in swine bowel; and (IV) machine and manual anastomosis in swine bowel. Surgically oriented anatomic dissection and operation were carried out on cadavers, with four work stations (head/neck, thorax, abdomen, and extremities) and a total of seven cadavers. In addition, several pre-dissected cadavers were also available, as well as illustrated anatomic atlases in digital and book form. In terms of surgical procedures, it was possible for the students to receive guided practice in the fundamental differences between surgical dissection and oncological–surgical dissection, coniotomy, tracheotomy, thyroid resection, neck dissection, thoracotomy, pulmonary lobe resection, laparotomy, resection of the stomach, bowel, and spleen, vascular sutures, and much more. The laparoscopic surgery day was concerned with the basics of laparoscopic surgery and laparoscopic cholecystectomy on a swine liver. The practical part was completed with surgical endoscopy, which was introduced by a visit to Erbe Elektromedizin Ltd. in Tübingen.

Active support was provided by: Prof. Anthuber, Augsburg; Prof. Bruch, Lübeck; Prof. Brücher, Tübingen; Prof. Germer, Würzburg; Prof. Grund, Tübingen; Dr. Hirth, Tübingen; Prof. Izbicki, Hamburg; Prof. Jonas, Leipzig; Prof. Königsrainer, Tübingen; Prof. Lang, Mainz; Prof. Liebermann-Meffert, Freiburg; Prof. Wagner, Tübingen; and Prof. Ziemer, Tübingen.

In addition, a tutorial working lecture on the topic of “Pathology: from Dissection to Diagnosis” was given by Prof. Fend and Dr. Hann-von-Weyhern.

In view of the discrepancy between three-dimensional perception with the “surgical eye” and the two-dimensional perspective available in imaging, a special radiology topic was included, provided by Prof. Claussen and Prof. Miller (both from Tübingen). Various specialized oncological aspects were included: tasks and goals in an “Interdisciplinary Approach” (Prof. Kranz, Tübingen); “Differentiated Oncological Treatment Depending on Response” (Prof. Brücher, Tübingen); and “Immunology — the Basis for Future Oncological Treatments” (Prof. Rammensee, Tübingen). Another highlight was a one-day tutorial working lecture-course on “Biometrics and Clinical Application of Computational Medicine” by Dr. Daumer (Munich).

Introducing most of the lectures, Prof. Brücher presented historical information on the discipline of surgery and/or science from the times of Billroth, Lister, Bergmann, Dieffenbach, Wachsmuth, and Stelzner, as well as others such as international well known surgeons (Wellch), or Fritz Rau and Manfred Spitzer, in order to convey a connection with the discipline’s tradition and its underlying conceptual structures.

With so many points on the programme, each day of the two-week *Summer School* was packed tight. Some compensation for the fairly high practical and mental

demands being made was provided by the joint dinners held each Monday and Wednesday. In a relaxed atmosphere, the students were able to talk with the invited professors about the everyday hospital routine, research topics, and "everything under the sun." With the highly elaborate program, none of the barriers that otherwise come up between students and professors arose. Another reason for this was certainly the positive atmosphere and eagerness to learn seen in this year's *Summer School* group. No one was able to resist the atmosphere. The positive group dynamic among the students even continued during the free weekend, when a large barbecue party was spontaneously organized. Quite a few lasting friendships will surely have been formed during the two weeks as well

.

Theodor Billroth Academy ® Summer School Fellowship

At the end of the two-week *Summer School*, two stipendia were awarded following an examination. The awards consisted of:

- Free conference attendance at the annual conference of the German Association for Surgery in Munich, 2009
- A weekend course in surgical laparoscopy in Elancourt, France, including flight, hotel, and participation costs.

The stipendia were awarded to:

- Ms. Petra Kraus (Greifswald) and
- Mr. Jonathan-Michael Harnoss (Berlin)

Summary and prospects

As one module of the newly founded **Theodor Billroth Academy ®**, the *Summer School* is intended to be the first step towards a new era of training for medical students who are interested in surgery. This is why it is aimed at the early stage of medical courses (the last preclinical and first clinical semesters). Under the umbrella of the *Summer School*, additional content and modules will also be offered and implemented in the future, depending on the students' training levels. The academy sees itself as an institution designed to provide active support for training in, and for promoting interest in, the field of surgery in general as well as academic surgery. In addition, there is also a corresponding plan for alumni and active future mentorship. To sum up, the establishment of the **Theodor Billroth Academy ®** and the *First Summer School* held in 2008 were a success. We will report later on further developments.

Our thanks go to all those named above who provided active support for the **Theodor Billroth Academy ®** *Summer School* project. Particular thanks go to Covidien Ltd. (Neustadt an der Donau), who provided unreserved support and encouragement for the idea and its implementation. Special thanks for their support also go to Mr. N. Kraemer and Mr. C. Molter of the publishers Dr. R. Kaden-Verlag Ltd. (Heidelberg), Erbe Elektromedizin Ltd. (Tübingen), and Porschezentrum Reutlingen Ltd. (Reutlingen).

Address for correspondence:
Prof. Björn L.D.M. Brücher, FACS, Chief Physician
Director, Surgical Oncology
Dept. of General, Visceral and Transplant Surgery
University of Tübingen
Hoppe-Seyler-Strasse 3
72076 Tübingen
Germany
E-mail: bjoern.bruecher@med.uni-tuebingen.de