

Paediatric surgery in Switzerland

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The beginning

On 24 November, 1689, Elizabeth and Catherine Meyerin were born as conjoined twins in Basel, Switzerland. Johannes Fatio (1649-1691), renowned master barber surgeon successfully proceeded to separate the xypho-omphalopagus twin with a silken cord in front of an audience of many medical men and lord mayors. Although published by E. König one year later, this case illustrates the dawn of paediatric surgery in Switzerland, with J. Fatio being its first remarkable representative. In the fourth section of his only printed book *Helvetic Reasonable Midwife*, more than 17 greatly detailed chapters describe the diseases of neonates and infants, together with their treatment. He describes mouth to mouth respiration as the most efficient method of resuscitation, warns of the danger of bleeding from cutting the lingual frenulum, writes about a peno-scrotal hypospadias operation using a trocar from the glans along the shaft of the penis and passing a leaden tube along the newly made channel into the bladder. He clearly distinguishes between umbilical hernia (which rarely needed any treatment) and exomphalos (to be closed with continuous strapping over the often ruptured membranes).¹

Until the late 19th century, Switzerland was still a poor and underdeveloped country with significant emigration. Compared to France, the slightly later opening of paediatric hospitals was also due to the relatively small size of our country as well as to the very low income of its inhabitants. As in many parts of Europe, sick Swiss children lucky enough to have access to medical treatment stayed at home or were treated in adult hospitals.

Under the influence of the Hôpital des Enfants Malades, founded in 1802 in Paris, Swiss doctors actively participated in the opening of hospitals specially dedicated to the care of children (see Table 1). The first was in Neuchatel (1811) followed by Basel (1846), Lausanne (1861), Berne (1862), Aarau (1866), Zurich (1871), Genève (1872), Bienne (1903) and finally Sankt Gallen (1909).^{2,3}

Table 1

Most of these new hospitals were privately funded and were commonly run by general surgeons who had an interest in paediatrics. For example, the Kinderspitäli in Basel was opened by Frau Burckhardt in part of her own house. A housekeeper looked after the patients who were treated by Dr Carl Streckeisen (1811-1868)... “for the love of God”.² Contrary to orphanages and homes for lost children, these hospitals were directed by doctors eager to apply and improve their scientific knowledge. In the 1840s, influenced by the Viennese school, doctors were starting to do auscultation, percussion, to measure temperature and introduce microscopic analysis in their daily practice. Surgery was becoming slightly more reliable, thanks in part to the advent of anaesthesia with ether and chloroform. The 1840 book on paediatric surgery by Gersant was translated from French into English and became an international reference.

Highly symbolic of the success of modern surgery, ironically appendectomy only slowly became popular among the medical societies in Switzerland. Doctors, surgeons and the population in general were not convinced that removing the inflamed appendix was an adequate solution. Over a period of two decades (1880-1900) the American surgical elite was working hard to scientifically study and justify appendectomy. In 1888, Cesar Roux, an

influential Swiss general surgeon asked one of his interns at the Hôpital Cantonal de Lausanne to study appendectomy for his thesis. Once convinced of the adequacy of the procedure, he quickly performed enough appendectomies to be able to present more than 100 specimens of appendix at the National Exhibition in Vevey in 1901.⁴ This had a significant impact on both the population and the local medical community, allowing further generalisation of the procedure.

At the beginning of the 20th century, most of the surgeons operating on children were mainly treating adults, including Professor Monnier in Zurich, Dr Vuillet in Lausanne, Dr Lauterburg in Bern and Dr Nicole in Basel.

Max Grob (1901-1976)

Born in Zurich in 1901, this man was certainly the most influential Swiss paediatric surgeon, not only for being the first Swiss surgeon to devote his entire work to children, but also because of his many “firsts” in Swiss paediatric surgery and his central role as teacher of many future Swiss paediatric surgeons. Margrit Stockmann (1915-2008, Clinic Santa Anna, Luzern), Marcel Bettex (1920-1997, Bern), Noel Genton (1925- , Lausanne) all trained in Zurich.

The first appointment of Max Grob was as a first-year resident at the cantonal infants hospital of his native town in 1928. He then worked with Professor Monnier in the surgical department of the same hospital and was so fascinated by his task that he decided to devote himself exclusively to paediatric surgery. He completed his training with P. Clairmont at the University Hospital of Zurich in 1936. This was followed by a 6 months course in the surgical department directed by L. Ombrédanne at the Hôpital des Enfants Malades in Paris. With Professor Veau, he familiarized himself with the treatment of cleft lip, jaw and palate. Back in Zurich, he opened a private practice as a specialist in paediatrics and surgery. The title of specialist in paediatric surgery was neither recognized nor allowed at that time. Two years later, he was elected to be the successor to Monnier at the children's hospital. It was wartime, and there was no exchange of experience on an international level. His main interests were in the surgical correction of congenital malformations and cardiac surgery. He carried out the first successful heart operation in a child in Europe in 1947, performing a Blalock-Taussig operation for Fallot's tetralogy. He operated on a wide variety of congenital heart defects, introduced artificial hypothermia in 1957 and, two years later, used a heart-lung machine for the first time (Picture 1). He also did pioneering work in the treatment of cleft lip, jaw and palate surgery. Furthermore, he was the first surgeon in Switzerland to perform a pull-through operation for Hirschsprung's disease and to correct a hiatus hernia. He published a renowned teaching book on paediatric surgery in German, *Lehrbuch die Kinderchirurgie*, in 1957. In 1982, the second edition of this book edited by M. Bettex, N. Genton and M. Stockmann, involved the vast majority of paediatric surgeons working in Switzerland at that time.

Picture 1

The brilliant career of Max Grob was recognised by many international paediatric surgical associations, from which he received numerous awards and distinctions. In 1969, he was awarded the Dennis Browne Memorial Medal of the British Association of Paediatric Surgeons (BAPS), of which he was a active member from the start in 1953. He was a man of integrity and modesty, with a high sense of criticism and perseverance.⁵

Birth of the Swiss Society for Paediatric Surgery

From 1963 onwards, Swiss paediatric surgeons held yearly meetings to share their knowledge and experiences. The first meeting in 1963 was organized by Noël Genton in Lausanne. In the 1960s, many medical specialities led to the foundation of new Swiss societies including a society of Orthopaedics and one of Urology. Even though Max Grob was not very much in favour of a society for paediatric surgery separated from the Swiss Society for General Surgery, he could not stop the movement initiated by his colleagues and pupils. The Swiss Society for Paediatric Surgery was formed in Bern in the Theodor Kocher Institute club room on 20 October, 1969. Max Grob became the first president of a society including 18 members from all over Switzerland. Robert Morger from St Gallen was vice-president and cashier. Marcel Bettex from Bern became general secretary. Fabio Muggiasca and Alois Schaerli were appointed to check the accounts.⁶ The first society meeting took place the same day in the afternoon. In 1974, the society was officially recognised by the Swiss government official medical council (FMH, Federatio Medicorum Helveticorum) implying that its members could then hold the official title “paediatric surgeon FMH”. The Swiss Society for Paediatric Surgery became part of the “UNION” in 1978, a joint venture of 6 surgical societies including General Surgery, Neurosurgery, Urology, Plastic Surgery and Orthopaedics. The aim of the UNION was to achieve quality control without state bureaucracy and to coordinate post-graduate and continuous medical education in the various fields of surgery. A. Schaerli from Luzern was general secretary of the UNION for more than 15 years.

The years 1960 to 1990

In this fast evolving part of the 20th century, several renowned Swiss paediatric surgeons led the way to autonomy from adult surgery in the 5 university hospitals (Basel, Bern, Geneva, Lausanne, and Zurich) and in 3 district hospitals (Luzern -A. Schaerli , St Gallen -R. Morger and Biel – J. Ehrensperger).

In Zürich, Peter Paul Rickham (1917-2003), came from Liverpool to succeed Max Grob in 1971. He had just published a book *Neonatal Surgery* (1969) and had started a scientific periodical entitled *Progress in Paediatric Surgery* (1970). Urs Stauffer worked with him and took over in 1983.⁷ In Bern, Marcel Bettex took charge of a few surgical beds in the Children’s hospital in 1958. By the time he had retired in 1987, he had created an independent modern department of paediatric surgery. He was appointed president of the World Association of Paediatric Surgeons in 1984, remaining until 1987.^{8,9} In Lausanne, Noël Genton obtained an independent paediatric surgical unit in 1961. Antoine Cuendet started a similar unit in Geneva in 1962, Alois Schaerli in Luzern in 1971.

A man of endurance with a good sense of humour, Dr Schaerli used to call himself “son of Bettex, grandson of Grob”! With his friends from all 5 continents, he founded *Pediatric Surgery International*, a medical journal which contributed greatly to the spread of scientific knowledge in the field of paediatric surgery. He remained editor-in-chief for 18 years. In Basel, Peter Herzog took over responsibility from Prof. Nicole in the Kinderspital in 1973.

Over those years, as competition grew amongst centres, their leaders redefined the spectrum of paediatric surgery in Switzerland with the advent of several sub-specialities. They used

their friendship with other members of the BAPS to send their pupils for further training to prestigious and renowned paediatric surgical centres both in Europe and the United States.

Today and Tomorrow

With 68 ordinary members, 6 life members, 48 extraordinary members and 19 corresponding members, the Swiss Society for Paediatric Surgery has steadily grown into an active multi-lingual society supervising sub-specialities such as paediatric neurosurgery, urology, hand, plastic, trauma and neonatal surgery. Recently, our society became a founding member of a new federation of paediatric health care providers, the *fPmh* (Federatio Peditrioca Medica Helveticorum). Created in 2007 in conjunction with both Swiss Paediatric and Paedopsychiatric societies, this federation aims to better support child health and medical needs at a national level. With its nearly 8 million inhabitants, Switzerland has 26 cantons with varying health systems and organisations. A national regulation of highly specialised surgery is underway and will require some lobbying from the *fPmh*. A significant link with adult surgery will also be necessary to strengthen the transition in the treatment strategies of our “adult-to-be” patients.

Paediatric surgeons have long performed most visceral and orthopaedic procedures. Over the last decade, orthopaedic surgeons have sub-specialised in paediatric orthopaedics and taken over most orthopaedic procedures, except for fractures, which tend to remain in the hands of general paediatric surgeons. Nowadays, most Swiss paediatric surgeons working in university hospitals have a special field of interest in which they have gained expertise and for which they are renowned nationwide if not further abroad. Some paediatric surgical specialities have also been concentrated in specific university centres such as liver surgery in Geneva, heart transplantation in Zürich and Bern. Paediatric coelioscopic surgery started in Lausanne and Geneva, following the French influence. It is now well established in most centres.

Following bilateral agreements between the European Union and Switzerland, our society has engaged in a major brainstorming process to “Europeanise” our post-graduate training. The priorities of life today and the legal maximum weekly workload of 50 hours for interns have significantly changed the mentality of the young surgeon. This will require major adjustments in teaching and training.

Our main challenge for the future is to find the best way to train efficiently and work ethically while respecting legally defined working hours and maintaining the high quality level of care established by our predecessors.

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Tables and pictures

Table 1: Origin of hospitals for children in Switzerland

Year	Place	Name	Funding
1811	Neuchatel	Pourtalès	Jacques-Louis de Pourtalès
1846	Basel	Kinderspitäli	Frau Burckhardt
1861	Lausanne	Hospice de l'enfance	Aimé and Caroline Steinlen
1862	Bern	Kinderspital	Frau Von Jenner
1866	Aarau	Kinderspital	Sandra Cagnazzo
1871	Zürich	Kinderspital	Dr Conrad Cramer (Eleonoren-Stiftung)
1872	Geneva	Maison des enfants malades	Mr and Mrs Duval- Rillet
1903	Biel	Wildermeth	Johanna and Sigmund Wildermeth
1909	St Gallen	Säuglingsheim	City of Sankt Gallen

Picture 1: A daily scene in Zürich Kinderspital in 1958: the operating room (courtesy of Noël Genton)

