EUROPEAN RESUSCITATION COUNCIL

Volume 72, Issue 3, Pages 344-349 (March 2007)

Douglas Chamberlain was born in Cardiff in 1931, the son of a successful coal merchant. His early school career was not promising—he frequently was given a score of 0/100 in writing and spelling and got so used to failure that at the end of class he would hold out his hand voluntarily to receive a slap with a ruler from his intemperate and frustrated school mistress in Cardiff. In some desperation his parents sent him away to be a boarder at Ratcliffe College in Leicester, where a caring and sage schoolmaster realised that that there was something specifically wrong that might be rectifiable, in this otherwise very bright child. He realised that the underlying problem lay in Douglas's inability to comprehend the written word easily and diagnosed a reading problem, well before dyslexia was a recognised condition by the psychologists and educationalists. This intelligent and far-sighted schoolmaster did his utmost to help and encourage Douglas who responded by a remarkable improvement, sufficient to pass the entrance examination to Queens' College, Cambridge. He had wanted to study medicine since the age of three when his mother had taken him to see the doctor in Cardiff. In the corner of the doctor's office was a human skull on a bookcase, wearing a hat and with a cigarette in its mouth. The subject fascinated Douglas and he never deviated from his chosen career thereafter.

One day when attempting to cycle a prodigious distance back from College he encountered a severe headwind. A bit exhausted, he paused to rest for a few hours. Never one to do nothing while awake, Douglas read a book on the physiology of the heart. This was to influence his choice of specialty.

At Cambridge he had mixed talents. He rowed with prowess in the Queens' College VIII. The rowing club had an intensive daily training programme, which coincided with dissection in the afternoons. This absence from study, combined with his great difficulty in differentiating between his left and his right side, made his prowess in anatomy, to be at best, poor. For many years, he had to check the top pocket of his jacket to know left from right.

At his final viva voce examination in surgical anatomy he felt that he was doomed to fail. He had a viva from two of the local examiners and did not get many questions right. They left the room, anxious to have coffee. However, the rather genial external examiner had jumped to the conclusion that Douglas Chamberlain was the son of a famous surgeon, who was his contemporary and friend, stayed and asked a simple question at the end. "*This is a tibia. It is the bone that joins the thigh bone to the ankle bone". Douglas said he knew that. "But can you tell me if it is the left tibia or the right one?" Douglas struggled for the answer*…. Now the conversation became entirely devoted to friendly enquiries, stories of old times together and messages of good will to be conveyed to his father. Douglas tried to say that he was not the son of the famous surgeon but was too polite to interrupt the charming gentleman in full flow to tell him the disappointing news that he was not at all related to the surgeon's old friend. Eventually, the bell rang to indicate that the time for the viva had elapsed and they parted company in a most cordial fashion. Douglas passed the examination in surgical anatomy and went on to qualify as a doctor. There is no doubt that the genial old surgeon got it absolutely right, for had he not acted as he did, medicine might have been deprived of one of its richest talents.

The author, who was a freshman at Queens' College in Douglas's final year tried to know Douglas but Douglas, by his own admission, was much too important to be dealing closely

with such junior undergraduates! It was to be two decades before we got together with our common interest in resuscitation.

Douglas continued his studies at St. Bartholomew's Hospital in London and qualified as a doctor in 1956. He was appointed a House Physician at St. Bartholomew's for 6 months, which went well, and then a House Surgeon there, which did not go so well. Indeed his consultant surgical boss asked his junior surgical colleague to take Douglas out to lunch to inform him that he was the worst house surgeon he had ever encountered! This led Douglas to pursue a career in medicine and cardiology at St. Bartholomew's later in the army during his national military service and in various teaching hospitals in London. In one of these posts in chest medicine Douglas found his consultant boss's lectures so boring that he went to sleep and fell off his chair, causing a commotion and great displeasure to the tedious speaker. Douglas realised that he was not making progress in this post and accordingly a week or two later offered 1 month's notice, indicating that he we wished to leave the post. On hearing this news, the irate and incensed consultant phoned Douglas immediately to say he was to leave his post with disgrace forthwith. Fortunately, that evening Douglas received a phone call offering him a research post in cardiology at St. Bartholomew's to start work immediately.

His research centred on drugs and cardiac pacing. Were it not for hapless delays by a drug company processing Douglas's work, he would have been among the first to describe the clinical applications of the drugs that were later to be called beta blockers.1, 2, 3, 4, 5, 6 He determined the dose of atropine (3 mg) to induce full vagal blockade7—a principle adhered to in the guidelines of today.

He studied various techniques of dual chamber cardiac pacing,8, 9, 10, 11 techniques that also have stood the test of time.

Appointed a consultant cardiologist in Brighton in 1970, he continued his pacing and pharmacological research. He was one of the first to investigate the use of amiodarone in clinical practice.12

A chance encounter in 1970, was to change the practice of the ambulance service at home and abroad.

“I was doing a consultation visit in the patient's home. As I examined the chest he apparently died. I started vigorous chest compressions and patient looked up at me and struck me a severe blow on the chin. Nevertheless I continued the chest compressions and commanded his wife to dial 999 (the emergency number in the UK) for the ambulance which arrived after a protracted time with a defibrillator that took two men to lift. When it was turned on it exploded and caught fire. I thought we ought to be able to do better…”

In the aftermath of that event Douglas teamed up with William Parker (the Medical Officer of Health responsible for the ambulance service at that time) to start training selected ambulance personnel and to equip a number of ambulances for pre-hospital care. Within a year Brighton was to become the Seattle of the UK.13, 14, 15, 16, 17, 18, 19 It was to be a long haul to gain acceptance of paramedics by the ministry of health. Frank Pantridge had experienced similar difficulties and obstructions in the earlier years from his own specialty with his doctor manned ambulance with a defibrillator in Belfast.20

Defibrillator technology was developing fast and the devices were being automated to make their use simple and safe. Unlike others in the United States and elsewhere, Douglas seized on the possible applications and was the first to use an automated defibrillator in the clinical situation and was the first to introduce Public Access Defibrillation, before the term was brought into use.21 He trained station staff at Victoria Station in London (where the

train from Brighton arrived) and staff of the British Caledonian Airline (based at Gatwick Airport close to Brighton) and at Brighton and Hove football ground.22, 23 It is interesting to note that when British Caledonian Airlines was taken over by British Airways (BA), a much larger organisation, they withdrew defibrillators from the Caledonian aircraft as they were not convinced that it was worth it to equip the much larger BA fleet. That is until Douglas became advisor to BA, then eventually all BA aircraft were fitted out with automated external defibrillators (AEDs).

Training was of the essence. Douglas had set up a the first organised community training scheme in Brighton.24 He had been impressed with the performance of an ambulance man in Brighton, Dusty Miller, on his first fateful encounter with pre-hospital coronary care and attempted defibrillation in the home. Douglas trained Dusty to become the very first Resuscitation Training Officer (RTO) in Brighton. The concept spread like wild fire around the UK, so that now every district hospital has at least one post and many large institutions have several. The RTO takes charge of hospital and some community resuscitation training and the hospital resuscitation equipment and service. The concept is envied by many in continental Europe.

In the 1970s resuscitation training for laypersons was piecemeal and both the curriculum and standards varied between the volunteer services, such as St. John, St. Andrew and the British Red Cross, the charitable organisations, such as the British Heart Foundation, and a multitude of entrepreneurs who saw training for industry staff as a good way of generating an income. Douglas was, as ever, a catalyst and in 1981 a self appointed group from the relevant specialty interests of cardiology (himself), anaesthesia (the author), emergency medicine (John McNae and Roger Sleet), paediatric anaesthesia (David Zideman), general practice (Judith Fisher and Rodney Herbert) and life saving from water (Mark Harries) sat down to address the problem. As always matters were discussed over a drink, and within 1 h the group had founded the Community Resuscitation Advisory Group (CRAG) soon to become the Community Resuscitation Council (CRAC), which sounded more impressive. Each member of the group was able to gain the support of their specialist societies and academic bodies for the project. The first flip chart and booklet “Resuscitation for the Citizen” was produced a few months later with the help of Laerdal Medical and was an enormous success as it brought together a consensus drawn from all the relevant medical specialities and authorities for the first time. The CRAC set about organising scientific meetings. In 1983, as advanced life support was included, the CRAC became the Resuscitation Council UK (RC [UK]) with Judith Fisher as its first Chairman and Douglas, who never wished for power or glory, as its principal mentor. The RC [UK] started to produce guidelines25 and has never looked back. It is now the authority acknowledged by all in medicine and government in the UK. It also enjoys considerable admiration and respect internationally.

With increasing co-operation within Europe politically and medically, there was a clear case for creating a European Resuscitation Council with the aim of unifying training and practice in the European countries. With the late Lars Mogensen of Denmark, Douglas approached the European Society of Cardiology (ESC) to act as the parent body for a European Resuscitation Council. To their great disappointment the ESC turned down the proposal (with hind sight this was a bit like turning down an offer to manage the Beatles!). Undaunted, Douglas and Lars gathered some proponents together, including Leo Bossaert of Belgium, Paul Hugenholtz of Switzerland and John Camm from the UK. Once again over a drink, they agreed that the concept should be pursued, but this time on an independent,

multidisciplinary basis, because the European Regional Section of Anaesthesia, for example, had a thriving CPR committee of its own. In the manner of the creation of the RC (UK), self appointed enthusiastic representatives from several countries and specialities gathered together in Antwerp in 1988 and formed the European Resuscitation Council (ERC).26 Once again Laerdal had supported the concept and enabled colleagues from various countries to meet together.

Douglas was an enormous driving force within the ERC, setting up working groups to address specific aspects of resuscitation.27, 28 He negotiated with Elsevier, the publishers, to make the ailing journal *Resuscitation* the Official Journal of the ERC, and was appointed Editor-in-Chief in 1990. Thanks to his worldwide contacts, who held him in the highest regard, and, working tirelessly, he took publication from an erratic half yearly to quarterly and finally bimonthly over a period of 7 years.

With his international contacts and friends, particularly Richard Cummins and others in the American Heart Association (AHA), he was able to bring together the ERC, the AHA, the Australian Resuscitation Council (ARC), the New Zealand Resuscitation Council (NZRC), the Resuscitation Council of Southern Africa and the Resuscitation Council of Latin America (CLAR) to form the International Liaison Committee on Resuscitation (ILCOR).29 The term ILCOR was suggested by Dr. Walter Kloeck from Johannesburg and was immediately accepted as a suitable catchy abbreviation for the activities of the organisation and, as a bonus, also conveniently conveyed the concept of a “sick heart”. Through masterly persuasion and diplomacy, Douglas ensured that the ILCOR collaboration flourished. The first task was to create a uniform system for reporting the results of scientific studies. This was named the Utstein Style after the abbey near Stavanger where the first meeting had taken place (Figure 2).30

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Figure 2. The first Utstein meeting in 1990 (photo courtesy of Tore Laerdal).

Subsequently, ILCOR produced a periodic international consensus on science that produced guidelines for resuscitation 199731, 32, 33, and later in 2000 and 2005. To supplement the guidelines he initiated and chaired ILCOR Working Groups to address specific topics that included research methods and education, training and assessment34. Dyslexic or not, Douglas is masterful with words.

Back in the UK he continued to be the principle driving force and acknowledged doyen of resuscitation35, being a leading advisor to the British Heart Foundation and the Department of Health. In this role he introduced and masterminded the most comprehensive national PAD programme of its time,36, 37 which served as an example to many others.

He established, with Tom Evans and Alan Macintosh, the Joint Royal Colleges Ambulance Liaison Committee, which brought a multidisciplinary approach to training, education, standards and practice in the UK ambulance service.

He was appointed Professor of Resuscitation Medicine at the University of Wales in Cardiff in 1997. This is an honorary post in that he is not paid a salary, but Douglas is always one to give his time and efforts quite selflessly. He led an active team in Cardiff that produced landmark publications on basic life support and automated defibrillation and the influence of education and assessment on performance.38, 39 He is also Visiting Professor of Cardiology at the University of Brighton and remains an Honorary Consultant Cardiologist at the Royal Sussex County Hospital.

Author of literally hundreds of scientific papers, a sought after lecturer in all corners of the globe, and a highly respected researcher, Douglas has been widely honoured—by the Pope in 1987 and by the Queen in 1988, and by numerous professional, academic and august bodies. These include conferment of Honorary Doctorates from the University of Sussex and the University of Hertford, Fellowships in the American College of Cardiology, the European Society of Cardiology, and the Royal College of Anaesthetists. He is an Honorary Member of the Association of Anaesthetists of Great Britain and Ireland, the Resuscitation Council (UK) and the ERC. He has received awards from the AHA, the Citizen CPR Foundation, the British Cardiac Society, the British Association for Immediate Care and the UK Ambulance Service. Douglas continues his research and teaching endeavours undaunted and remains highly respected as an opinion and wise counsel. Very few have contributed more to resuscitation worldwide during the last 40 years.

Conflict of interest statement

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None.

Acknowledgements

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The author is grateful to Sarah Mitchell, Judith Fisher, and David Zideman for help with the precise early history of the RC (UK) and to Tore Laerdal for permission to publish Figure 2.

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