

## The Integration of Surgery into Cardiology: Lessons from the Heart Club 1948-1956 Cardiac Care

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It is abundantly clear now, and goes without saying, that surgeons are an integral part of the heart team. But there is an interesting paradox in our history which is brought to light, or perhaps it would be more reflective to say that it “dawned” on me, in my research during compiling and writing my book “The Heart Club” [1]. In the late 1940s innovation in intracardiac surgery was beginning in London, but it was not and could not be at the National Hospital for Diseases of the Heart because it had no surgeons or operating department, and would not have until cardiac surgery was established. London had very well developed specialist thoracic surgery at The Brompton but that was a chest hospital. Thoracic surgery had largely come about for the treatment of tuberculosis on the pre-antibiotic era. The hospital had no cardiological practice or specialist heart doctors. Heart surgery was unlikely to start there either. It needed an integrated team. And so, despite a fine tradition of specialist hospitals, when surgery for heart disease started in London, it was at a general hospital: that was Guy’s Hospital.

It was Russell Brock who convened the meeting that led to the formation of the Club. He worked both at Guy’s and The Brompton where with great surgical leaders such as Arthur Tudor Edwards and Clement Price Thomas they had developed thoracic surgery into a specialty with its own standards of anaesthesiology and nursing. During 1939 the Brompton surgeons became impressed with a visiting American, Dwight Harken, who had come from Boston to train with them as a surgical fellow. In 1944 in anticipation of the D-Day landings the American forces were setting up a hospital hidden in the Gloucestershire countryside. Chest injuries were common in warfare and even if survived, they were a source of protracted complications which were more likely to be averted if the patients were managed with thoracic expertise. The British thoracic surgeons knew Harken and saw him as the man to operate in this designated specialist hospital. There was a division of opinion however between those who advocated specialist care and those who believed in the truly “general” surgeon. Eliot Cutler, Brigadier General of the US Army Medical Core, was one of the latter but it seems likely that Tudor Edwards was influential in getting Harken, just 34 at the time, put in charge of the hospital. Harken went on to remove intrathoracic shrapnel and bullets, many from within the heart, from 134 soldiers without any deaths. Brock went to watch some of these operations and when Harken reported his experience to the Association of Surgeons of Great Britain and Ireland [2] the belief that the heart was out of bounds for surgeons was incontrovertibly set aside.

Apart from there being no surgical staff or facilities at the ‘National Heart Hospital’, there was another powerful reason why operating on the heart could be discounted there. It was its senior physician Frederick Price, who was the editor and writer on cardiology of one of the most authoritative textbooks [3]. In the 1920s there had been some surgery for mitral stenosis, with ten cases on record. Seven of these were operated on by the same Eliot Cutler in Boston. After an encouraging first survivor, his subsequent patients all died with hours or days. The era closed with Cutler, a realist and successful surgeon, writing in 1929, a “final report” [4]. Price described this experience in subsequent editions of his text book [3] but in successive later editions, he hardened his line against surgery viewing it to be at best first experimental and then firmly contraindicated. This was aligned with the teaching of the time. But Brock knew that Harken’s experience had refined the approach to reaching within the heart. Brock also knew of the single but notable success in 1925 of Souttar who freed the commissures rather than cut the mitral valve leaflets. The patient lived for about seven years, clinically improved to a degree, to be feted by Royalty. Another more fortunate

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coincidence helped Brock's ambition to achieve effective heart surgery. Wartime collegiality in the allied forces medical services led to an exchange programme between Johns Hopkins and Guy's. Maurice Campbell, senior cardiologist and editor of the *British Heart Journal*, saw many children with cyanotic heart disease and there was nothing he could do but to give a gloomy prognosis to their parents [5]. Thanks to the work of Helen Taussig and Vivien Thomas, Blalock had already performed the systemic to pulmonary artery shunt operation in hundreds of children and brought his proven and successful operation to Guy's during September 1947.

Brock and Campbell formed the Club bringing together cardiologists, surgeons, anaesthesiologists, radiologists, and most importantly the clinical scientists of the Medical Research Council unit who, in collaboration with colleagues in Boston and Baltimore, developed and refined catheterisation techniques to obtain better and safer anatomical and functional diagnosis of cardiac malformations.

### Brock wrote

"Intracardiac surgery is not for the lone worker. Team work is

essential. To give one example, at Guy's there is a group of some 15 people actively engaged in the work, and as time passes we find that more and more are drawn into the team" [6].

Those 15 were the core group of the Club, developing and practicing integrated cardiology. The total tally of those who attended and visited from Britain, Europe and all over the world is more than 80. Their story is told in "The Heart Club" [1].

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