

Two pioneers of plastic surgery: Sir Harold Delf Gillies and Sir Archibald McIndoe

The two Great Wars of 1914–18 and 1939–45 saw first the emergence and then the refining of the specialty of reconstructive surgery. This undoubtedly was the result of the stimulus provided by the large numbers of dreadful mutilations caused by high velocity missiles and by major burns. Two outstanding surgeons, both born in New Zealand and cousins, were responsible for much of the evolution of surgical techniques and the important organizational side of this work. In World War I this was Harold Gillies and, in World War II, Archibald McIndoe. Both died 50 years ago, in 1960, within a few months of each other.

Harold Delf Gillies was born in Dunedin, New Zealand in 1882. He trained at Cambridge (rowing in the university boat in the 1904 Boat Race) and at St Bartholomew's, qualifying in 1908. Two years later he passed his Fellowship of the Royal College of Surgeons, trained as an ear, nose and throat surgeon and was appointed to the staff of the Prince of Wales Hospital, Tottenham in London.

In 1914, after the outbreak of war. Gillies joined the Royal Army Medical Corps. While on leave in Paris, he visited the French surgeon Hippolyte Morestin, who had set up a special unit to deal with facial wounds. Young Gillies must have been a man of immense personality and power of persuasion; he convinced the War Office that a special unit was required for the British wounded. This was promptly established at the Cambridge Hospital, Aldershot with Gillies, now a Major, in charge. The unit was soon flooded with patients; a whole hospital was needed, and a hutted hospital, Queen Mary's, was opened at Sidcup, built by the Red Cross. Gillies recruited young surgeons and dentists from the UK and from the Dominions and trained them in this infant specialty.

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New techniques were 'invented', in particular, the pedicle flap operation, in which a vascular tube of skin and underlying soft tissue was raised from the arm or chest and used to replace massive tissue loss in the face. Bone grafts, usually from the iliac crest, were used to repair shattered jaws.

Meticulous records were kept, which can be seen to this day in the little museum at Queen Mary's. The artist Henry Tonks, who had started life as a surgeon and had his Fellowship of the Royal College of Surgeons, was recruited to record serially the cases in superb paintings and sketches (which can be seen in the Hunterian Museum at the Royal College of Surgeons), and to assist in planning the reconstructive work. The anaesthetists faced two problems at Sidcup: first, how to anaesthetize a patient with a smashed face and, second, how to keep the equipment out of the surgeon's way during the often lengthy operations. Two young Royal Army Medical Corps doctors, Stanley Rowbotham and Ivan McGill, who were to become leaders in this specialty, developed the technique of nasotracheal intubation, a method which passed into standard practice.

After the war, and appointed a Commander of the British Empire, Gillies was elected to the staff at St Bartholomew's as one of the handful of plastic surgeons in this country – indeed, undoubtedly the leader in the specialty. He was appointed consultant to the Navy, the RAF, the Ministry of Health and to half a dozen hospitals. He was knighted in 1930. When war broke out again in 1939, he organized plastic teams around the country and personally directed the large unit at Park Prewett Hospital, Basingstoke. After the war, he formed the British Association of Plastic Surgeons and was its first president – he remained active as a teacher up to his death at the age of 78 years in September 1960.

Archibald McIndoe was born in 1900, also in Dunedin, New Zealand. He qualified at the medical school at Otago

University and, after his house jobs, went to the Mayo Clinic on a Fellowship in 1925. After working in surgical pathology, he was appointed first assistant in surgery and seemed all set to make his career as an abdominal surgeon in the USA. He published a number of important papers, including a classical account of delayed rupture of the spleen, and it seemed that his future was to be in the USA.

However, Berkeley Moynihan, on a visit to the Mayo Clinic, watched McIndoe operate, was impressed by his technical skill and persuaded him to come to London. In 1931 McIndoe arrived at St Bartholomew's as clinical assistant to his cousin, Sir Harold Gillies, who, in turn, encouraged him to turn to plastic surgery as a career. The following year, McIndoe took his Fellowship of the Royal College of Surgeons and was soon on the staff of a number of hospitals, including Bart's, as plastic surgeon. In 1938 McIndoe was appointed consultant plastic surgeon to the Royal Air Force. The following year, he selected the Queen Victoria Hospital at East Grinstead as the site to establish a centre for plastic and jaw surgery and the work carried out there by McIndoe and his team on severely burned air crews made this the world-famous unit that it remains today.

Interestingly, McIndoe remained as civilian consultant throughout the war, believing that not accepting a military rank enabled him to stay outside of officialdom and red tape. Apart from the surgery itself, McIndoe insisted on the importance of rehabilitation and morale. Many people know of the 'Guinea Pig Club', a social club, with a well-stocked bar, for McIndoe's Air Force patients on whom he 'experimented' with his new techniques. The club is still in existence.

McIndoe died unexpectedly in his sleep in April 1960, shortly before his 60th birthday. The following year, a research unit was opened in his name at the Queen Victoria Hospital. **BJHM**

Conflict of interest: none.