

## **Plastic surgery in the two world wars and in the years between**

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The first British unit to devote its time exclusively to the treatment of wounds of the face and jaws was created 50 years ago. This was the birth of British plastic and reconstructive surgery as a specialty in its own right.

In 1916, at the height of World War I, Sir Arbuthnot Lane, consulting surgeon to the British Army, opened this unit at Aldershot and arranged for H D Gillies to be the surgeon in charge. W Kelsey Fry was selected as his dental colleague. Gillies was a New Zealander who received his medical training at St Bartholomew's Hospital and then became surgeon to the ENT Department, working closely with Sir Morton Smart. Harold Gillies had other qualifications that made him known to a wider public. His choice as a member of the Cambridge boat crew had been discussed widely in the daily press. He was a scratch golfer, a very good painter and, in a time when practical jokes were commonplace, was known for his eccentric behaviour. Ivan Magill was posted direct from the Irish Guards, where he had been Regimental Medical Officer, to act as an anaesthetist. Gillies, Kelsey Fry and Magill all received knighthoods in due course and achieved international fame. Sir Ivan Magill survives.

At the termination of hostilities the unit moved to Sidcup in Kent. Demobilization was slow and T Pomfret Kilner, a Manchester graduate, applied for a posting home from France. He was offered the only job available, which was at Sidcup with Gillies. 'What is plastic surgery?' he asked, but accepted the appointment and settled down to his new specialty with efficiency and devotion. As the work diminished, those from other allied armies who were working with Gillies were sent home, and they started units in Australia, New Zealand, Canada and South Africa. Gillies and Kilner achieved part-time status with the Ministry of Pensions, who were responsible for the Sidcup unit, and went into private practice together. Kilner is reported to have been the best assistant that Gillies could have desired. By nature they were complementary to each other. Gillies was a born showman and extrovert. Kilner was efficient and knew just where he fitted in the team. They were both very difficult to work with in the operating theatre: Gillies had a penetrating sarcasm for the inefficient colleague; Kilner could bring a theatre sister to tears when in the mood and was very difficult indeed.

No man likes playing second fiddle for ever, and the partnership broke up in the 1930s. The rift really started in 1925 when Gillies refused a request from the Ministry of Pensions that the unit should move to Roehampton. The result of this was that Kilner moved to Roehampton. Gillies was taken on at St Bartholomew's Hospital as the first plastic surgeon on the staff of a teaching hospital in London. (Kilner was appointed to St Thomas's Hospital in 1935; Mowlem was invited to the Middlesex Hospital in 1937.) Kilner's break from Gillies created some animosity between the two – especially as Kilner set up in private practice in the same building. The wounds were not healed until well after World War II. (It is a fact that every consultant in plastic surgery working today in the United Kingdom has been trained initially by one of these two men or by one of their trainees.)

In the early 1930s two New Zealanders appeared on the scene: McIndoe in 1931 and Mowlem shortly afterwards. McIndoe qualified in New Zealand and then completed his surgical training at the Mayo Clinic in Rochester, Minnesota. He was a junior consultant there and expected to stay. When Lord Moynihan paid a visit to Charles Mayo, the latter arranged for him to watch this young man operate. Lord Moynihan was impressed by this exceptionally able abdominal surgeon and invited him over to England with a view to applying for a vacancy at St Bartholomew's Hospital. McIndoe failed to make the grade at the appointment and, finding himself high and dry, was persuaded by Gillies, his only other contact and a relative, to

join him. Sir Archibald McIndoe became widely known throughout the nation for his utter devotion to the cause of injured Royal Air Force personnel. The impact on the public was not far removed from that of Florence Nightingale during and after the Crimean War.

The second New Zealander, Rainsford Mowlem, whose father was a judge, was doing general surgery at Balham under the aegis of the London County Council (LCC). On seeing some of the work of Sir Harold Gillies in another ward, he immediately determined to devote himself to that specialty, and was very soon working in private practice with Gillies and looking after his unit in the LCC. He was in some ways different from the other New Zealanders in the team. He was of small build, strong-willed and with a wiry physique. He was extremely practical with an analytical brain. Like Gillies and Kilner, he could be very tough with his juniors, but he disliked fuss of any kind and was quite happy to plough a lone furrow without public adulation. He was in every way as good a surgeon as the other three. He would have made an excellent lawyer like his father, but not a politician or a diplomat. He always spoke his mind.

These four men (Figure 1), by working at weekends with local help, covered most of England: namely Manchester and Birmingham, Stoke-on-Trent, the Treloar Crippled Homes at Alton, three teaching hospitals, a unit at St Andrew's Hospital, Dollis Hill, and another unit at Hammersmith Hospital. Kilner only had one free weekend in the month. The other three were in partnership from the mid-1930s. On seeking advice as to whether the field would be a good one for the general surgeon wishing to specialize, I was told in 1936, 'Really I do not think you have a chance, my boy. There are four plastic surgeons in the country and I can't think there can be room for more'. No one could have foreseen that, largely as a result of World War II, this number would be multiplied by at least ten, with plastic units in every teaching hospital and region. One of our trainees, Mr R S Murley, was elected President of the Royal College of Surgeons and took office in July 1977.



Figure 1. The founders of British plastic surgery in about 1948 (left to right): Mr Rainsford Mowlem FRCS, Professor Pomfret Kilner CBE FRCS, Sir Harold Gillies CBE FRCS and Sir Archibald McIndoe MS FRCS (Photograph supplied by the late Mr G Clemetson, Photographic Department, Queen Victoria Hospital, East Grinstead)

*The influence of World War II*

When plans were made for the medical service of the country in preparation for a national emergency, the plastic surgeons found themselves stretched to the limit. Harold Gillies retained the appointment of Consultant to the Army at home, to the Royal Navy and to the Ministry of Health. He was instrumental in the appointment of Archibald McIndoe to the Royal Air Force. The Ministry of Pensions already had a unit at Roehampton under the direction of their own plastic surgeon – T P Kilner. It is interesting to note that a new unit was planned here and was fitted with a poison gas absorption unit which occupied as much room space as the theatre accommodation. Unfortunately, the unit was not sufficiently deep in the ground for adequate protection, and in 1944 it was transferred to a second unit at Stoke Mandeville, which had been built in 1941 and manned by personnel from that time.

The Ministry of Health gave up hospital accommodation to Gillies, McIndoe and Mowlem. Gillies took over the private wing of a mental hospital at Basingstoke (Rooksdown House). This was close enough to Aldershot and on the main line to Portsmouth. It was no coincidence that this hospital was within easy reach of the best dry fly fishing in the South of England! A nice little cottage hospital with large grounds had recently been completed at East Grinstead in Sussex. This was chosen for McIndoe and the Royal Air Force unit. Another quite unexpected advantage proved to be the London commuters, who formed a wealthy and intensely patriotic lay support for the unit, contributing ancillary personnel and financial backing to the welfare of patients. The Ministry of Health also found a very satisfactory facility near St Alban's in the St Bartholomew's Hospital sector for Mowlem. This unit took most of the London casualties from north of the Thames.

The first year of 'the phoney war' was employed by the Royal Air Force to train personnel at East Grinstead. McIndoe had no option but to agree with the Royal Air Force consultants that further units were required. One of the first (under the direction of David Matthews) was established at Halton. Others sprang up in the Midlands and all were visited and controlled somewhat loosely by McIndoe. East Grinstead had a mobile unit that visited any hospital to receive airmen and evacuate them to a specialist unit where possible. The other services were less tightly controlled, as most of their casualties were far away when France capitulated in 1940. It became necessary for the Army to have its own special units for service abroad.

*The army units (Table 1)*

I was the first plastic surgeon to be sent abroad with a British Expeditionary Force (BEF) and arrived at Dieppe in December 1939. Although there was no established plastic surgical unit at Dieppe at that time, patients with facial injuries and jaw fractures were, nevertheless, being directed to Dieppe. There was an Army Dental Corps specialist, but there were no special instruments.

A committee was formed under the chairmanship of General John Weddell and attended by Sir Charles Max Page (consultant surgeon to the BEF), by the Deputy Director of Dental Services, by Major Peddy Wren ADC, and by myself as secretary. We planned then that a maxillofacial unit should be attached to a general hospital and provide its own special equipment – relying on its present unit to do the rest, including lending nursing staff and an anaesthetist.

During 1940–41, General Weddell and Sir Harold Gillies got together and made improved arrangements. A number of maxillofacial units were planned, each with complete theatre and staff, including an anaesthetist. The dental half of the unit was even stronger. It took at least two three-ton army vehicles to move such a unit which was, on arrival at its destination, attached to a general hospital for rations, discipline and ward accommodation with nursing.

Gillies and the Army Dental Corps selected all the surgeons and dental consultants. The teams were made up and trained at Rooksdown House with the exception of Number 6 team which went to Mowlem's unit. Few of these surgeons had any previous connection with plastic work, but all were interested and, after 'being thrown in at the deep end', made a real success of the specialized work demanded of them.

Table 1. Army maxillofacial units

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<b>British Expeditionary Force</b> (1939–40)	
<i>Dieppe</i> : R J V Battle; P Wren (dental)	
<i>Boulogne</i> : C L Heanley; G T Hankey (dental)	
<b>Unit No. 1</b> ( <i>Middle East Forces (Alexandria), Tripoli, Sicily, Italy</i> )	<b>Unit No. 4</b> ( <i>North Africa, Italy, Normandy</i> )
R Champion (1940–43)	P Clarkson (1942–45)
R S Murley (1941–44)	R Laurie (1943–45)
R J V Battle (1943–45)	<i>Dental</i> : T H Wilson (1942–45) (d.o.a.s.)
R P G Sandon (1944–45)	
<i>Dental</i> : E J Dalling (1940–45)	<b>Unit No 5</b> ( <i>Normandy, Germany</i> )
B V Janes (1943–45)	G M Fitzgibbon (1944–45)
J F Lockwood (1945)	T Gibson (1944–45)
	<i>Dental</i> : N H Holland (1944–45)
<b>Ad hoc Unit</b> ( <i>Italy</i> )	<b>Unit No. 6</b> ( <i>France, Belgium</i> )
A Smith-Walker (1944–45)	W Hynes (1944–45)
<i>Dental</i> : Hribajevsky (1944–45)	W Cowell (1944–45)
R Grewcock (1944–45)	<i>Dental</i> : W B Hales (1944–45)
<b>Unit No. 2</b> ( <i>Middle East Forces (Cairo)</i> )	<b>Indian Unit No. 1</b>
M C Oldfield (1940–43)	F W Pickard (Canada) (1943–45)
M Shaw (1943–45)	T Gibson (1945–46)
<i>Dental</i> : W R Roberts (1940–45)	<i>Dental</i> : N Thompson (1943–45)
R S Pook (1940–45)	
<b>Unit No. 3</b> ( <i>Far East, India, Burma</i> )	<b>Indian Unit No. 2</b>
C L Heanley (1942–45)	E Peet (1943–45)
<i>Dental</i> : J H Hovell (1942–45)	
	<b>Lone Ranger</b> ( <i>India</i> ): H E Blake (1942–43)

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In addition to these units, Gillies did a remarkable job in selecting and training civilians for the emergency medical services. An additional problem was the choice of dental specialists for each unit. This was solved by Kelsey Fry, who moved to East Grinstead to organize a dental centre, which was developed into a unit for training dental specialists prior to their being posted to the Services and civilian units.

#### *At termination of hostilities*

In tracing the ultimate careers of the surgical personnel after demobilization from the Forces (excluding F W Pickard who returned to Canada), only 4 partly left their whole-time activity of plastic surgery. Oldfield returned to the teaching staff at the Leeds Royal Infirmary; Smith-Walker returned to ENT work from the *ad hoc* unit; Murley became a general surgeon; and Lawrie from the Number 4 unit became a paediatric surgeon at the Evelina Hospital. Gibson from the No 5 unit and No 1 Indian unit remained in plastic surgery and is now President of the Royal College of Surgeons of Glasgow. A great number of plastic surgeons had to face the two-part Fellowship of the Royal College of Surgeons. Only Cowell remained in Belgium, where he preferred whole-time plastic surgery in a foreign land to the Fellowship in Newcastle.

Before World War II there were only 3 plastic surgery consultants on the staff of London teaching hospitals; now they all have departments of plastic surgery with one consultant, and in some cases with two. Thanks to the foundation in 1948 of the National Health Service, which held on to the Regional Plastic Centres, there are now centres giving plastic surgery cover to every area of the country – with three in Scotland, one in Belfast and a Welsh National Unit at Chepstow.

#### *The professorial unit at Oxford*

The history of this unit, which was conceived during the war and born at the termination of hostilities, is intriguing and unusual.

The late Lord Nuffield wished to reward Dr Shehan of New York who had been most

assiduous and helpful in the treatment of Lady Nuffield. He had completed his task by accompanying her over to England during the war when the dangers from enemy attack were considerable. Shehan appeared in London in 1942 with a letter from Lord Nuffield offering to found a professorial chair of plastic surgery for him in this country. This development was unpopular with Sir Harold Gillies because Shehan had held the post of consultant to General Franco during the Spanish Civil War; Sir Harold made his view clear to the Prime Minister. However, Shehan did not wish to settle down in any country other than the USA. Gillies' conversation with the Prime Minister was duly reported to Lord Nuffield who decided that he would not include Sir Harold in any future plans. Shehan suggested Kilner's name for the new professorship and Lord Nuffield duly made available to Oxford University a sum exceeding £80 000.

Unfortunately for plastic surgery, the funds were not renewed by Oxford since the unit was not engaged in fundamental research. The unit is still active in the Churchill Hospital, but is not endowed.

### **Bibliography**

*Cope Z ed* (1953) *History of Medicine in the Second World War. Volume on Surgery.* HMSO, London; pp 321, 341, 360

## **Fifty years ago**

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Of the many activities of the Company the minute books bear witness. In the first place there was their play, "The Baptizing of Christ," and the dinners associated with their head meeting day on Trinity Monday. That they might have a full repast at a very moderate figure, the following bill of fare and its cost shows:—

"A Bill of Fare for the Barber Surgeons and Wax and Tallow Chandler Company, October 28, 1478, in the reign of Edward IV:— To 2 loins of veal, 8d.; 1 do. beef, 4d.; 2 leggs mutton, 2½D.; 1 pigg, 6d.; 1 capon, 6d.; 1 rabbit, 2d.; 1 doz. pigeons, 7d.; 1 goose, 4d.; 1 gross eggs, 8½d.; 2 gallons wine, 1s. 4d.; 18 gallons ale, 1s. 6d.

*From 'The Company of Barber Surgeons and Tallow Chandlers of Newcastle-on-Tyne' by F C Pybus MS FRCS (Proceedings of the Royal Society of Medicine, Section of the History of Medicine, 1928–29, 22, 290)*