

Sir Frank Holdsworth: innovative orthopaedic surgeon

This year marks the 50th anniversary of the death of Sir Frank Holdsworth, a pioneer in the management of spinal injuries and an early advocate of rotational training schemes in surgery.

Holdsworth was born in Bradford in 1904 and was educated at Bradford Grammar School. He gained an exhibition to Downing College, Cambridge to read natural sciences and then a senior scholarship to study medicine at St George's Hospital Medical School, obtaining his Membership of the Royal College of Surgeons and Licentiate of the Royal College of Physicians in 1929 and proceeded to gain his Fellowship of the Royal College of Surgeons the following year.

After resident surgical posts at St George's, Holdsworth was appointed surgical registrar at the Sheffield Royal Infirmary, where he came under the influence of the Professor of Surgery, Sir Ernest Finch, and they became lifelong friends. Here, in the splendid new surgical building, Finch had realized the need for specialized orthopaedic facilities and training, in view of the large numbers of major trauma patients from the heavy industry and coal mines in the surrounding areas, and in 1937 Holdsworth was appointed the first orthopaedic consultant surgeon in Sheffield.

Finch generously gave up one of his wards to provide Holdsworth with sufficient beds. There was also a large accident department at the Infirmary and beds and cots were made available at the Children's Hospital. The accident department soon became a model for the country. In 1964, the university department of orthopaedics was established in Sheffield, with Holdsworth as its first director.

Holdsworth was one of the pioneers of rotating surgical trainees through the various

surgical units, which now, of course, is widely practiced. Here I have to confess to a personal experience. At the end of 1952, I was asked to attend for an interview for one of the vacant surgical registrar posts at the Royal Infirmary. After the interview, I was called, with two others, before the committee and the chairman, Mr Holdsworth, explained that we three had been selected. He proposed to us that we should rotate with each other over the next 2 years through two general and one orthopaedic 'firm'. We all agreed, and the scheme went on to become extremely popular.

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The idea soon spread and was accepted by the surgical Royal colleges, the General Medical Council and the Department of Health. When I became Professor of Surgery at the old Westminster Medical School in 1962, I introduced annual rotation of the surgical senior registrars, which again proved popular.

I can attest to Holdsworth's abilities as a teacher and clinician. His ward rounds and outpatient clinics were a pleasure; an exhibition of great personal experience and logical thought. When I assisted him in the operating theatre, we were always impressed by the skill he displayed as he taught us; he was especially adept at the manipulative reduction of fractures. Holdsworth's most important clinical contribution was without doubt his work on post-traumatic paraplegia, which he summed up in his Hunterian Lecture on this subject given at the Royal College of Surgeons in 1954 and which is well worth reading today.

Spinal injuries and their neurological consequences were all too common in the coal mining areas of south Wales and the industrial north of England. Up to World War II, as Holdsworth writes, 'there was little interest in this problem and patients were left to die, for all practical purposes, with rotting bed sores wasted and with severe renal infection'. During World War II the great numbers of service patients led to special units being set up to deal with these patients. Notably and famously the unit at Stoke Mandeville was run by Sir Ludwig Guttmann, a German-Jewish refugee, interestingly a neurologist and not a surgeon. These centres admitted patients usually with established problems, weeks or even months after injury.

In Sheffield it was decided to admit patients immediately after injury to a special 50-bed unit. Unstable spinal fractures were treated by emergency surgical fixation by means of two metal plates screwed to the spinous processes. This allowed immediate mobilization of the patient – as a consequence serious pressure ulcers were prevented. Holdsworth estimated that six to eight such units, established across the country, could cope with such immediate and expert management nationwide.

Holdsworth's contributions to orthopaedics were duly recognized in his lifetime. In 1958, he was elected to the Council of the Royal College of Surgeons and was vice-president of the College at the time of his death. He served as president of the British Orthopaedic Association in 1961. In 1968, Holdsworth was knighted.

In his spare time, Frank Holdsworth enjoyed trout fishing and reading history, especially of the period of the Plantagenets. Sadly, his last years were dogged by ill health. He had been a lifetime heavy cigarette smoker, with consequent pulmonary and cardiac problems. In 1969, 50 years ago, he died suddenly at Nuffield College while attending a meeting of the Royal College of Surgeons. **BJHM**

Conflict of interest: none.

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