Sheffield was an ideal place to test Mellanby’s hypothesis that rickets, a disease in children that causes the bones to develop softer than normal, resulting in muscle and bone weakness and deformity, was caused by a deficient diet, particularly the lack of vitamin D. In his field laboratory at Lodge Moor, he fed puppies with low-fat milk, bread and oatmeal – the standard diet of children from less well-off families in Sheffield. All the puppies developed rickets, which he then cured with small doses of cod liver oil.

 AE Barnes summed up his achievement: “When we think of the operations for bent legs, the difficult childbirth from pelvic deformities, the chest deformities, and the ‘fits’ seen by every student, we can realise what the world owes to Edward Mellanby.”

In this, and all his research, he was assisted by his wife, May Mellanby (1882–1978), a dental histologist who showed that dental disease in children could be linked to lack of vitamins and the mother’s pre-natal diet. She was an Honorary Demonstrator in Dental Histology (1921–25) and an Honorary Lecturer in Physiology (1933–34) at Sheffield, and published a number of research papers as well as three special reports for the Medical Research Council (MRC).

In 1923, Edward Mellanby and Sheffield physiologist Professor John Beresford Leathes were selected by the MRC to test the use of insulin to treat diabetes. Mellanby thus became one of the first British physicians to use insulin therapy, using preparations made in the Physiology Department.

He left Sheffield in 1933 to become secretary of the MRC, a post he held for 16 years. He received an honorary degree (DSc) from Sheffield in 1934, a year after his wife received the same accolade, and was knighted in 1937. Before and during World War II, he worked on the creation of an optimum wartime diet and on the welfare of the armed forces. After his retirement he undertook advisory missions to India, Australia and New Zealand, but continued to spend most of his time in his laboratory and he died at work, quite suddenly, in 1955.

**DID YOU KNOW?**
The University’s Mellanby Centre for Bone Research is the top centre for bone research in the UK.

**See also:**
Timeline: B floor entrance