

## Professor Per-Ingvar Brånemark

The honorary degree of Doctor of Dental Science was conferred upon Professor Per-Ingvar Brånemark by the Chancellor the Hon Justice Kim Santow at the 11.30am Dentistry graduation ceremony held on 19 December 2003.

### Citation

Chancellor, the Senate of the University, at its meeting on 8 April 2002, resolved that Professor Per-Ingvar Brånemark be admitted to the degree of Doctor of Dental Science (*honoris causa*).

Professor Brånemark graduated in medicine from the University of Lund, Sweden in 1956, and completed his PhD in 1959. He was appointed Professor of Anatomy at the University of Gothenburg and Director of the Laboratory of Experimental Biology in 1963. From 1963 until 1977, Professor Brånemark and his team of medical biologists, engineers and technologists, designed and developed oral implants for the reconstruction of the edentulous, or tooth-free, jaws. The first completely edentulous patient was treated in 1965 and this single event established a new era in implant reconstruction in dentistry and paved the way for the development of the principles of biological acceptance of implants based on the science of bone biology.

In 1977 Professor Brånemark established the Institute of Applied Biotechnology in Gothenburg as the centre for research and development in implant design, clinical treatment and bone biology research. The term "osseointegration" was introduced and is now defined and accepted internationally. This term is synonymous with Professor Brånemark and the biological basis upon which predictable implant treatment is based.

The treatment of complete edentulism was accepted by the Swedish government as a major advance in health care. The Government supported this health requirement to the extent that it could be said that Sweden was the only country in the world "to treat away edentulism". The first paper describing the clinical data was published in the International Journal of Oral Surgery in 1981, although previous reports had been made in Scandinavian journals. This led to great excitement internationally, and the first teams, outside Sweden, to commence this treatment were Toronto in 1980 and Sydney and Perth 1981. Other centres followed, and in 1988 the European Osseointegration Training Centre was opened in Leuven. In 1989, the Brånemark Osseointegration Centre was established in Gothenburg, Sweden as a clinic for reconstructive surgery and tissue integrated prostheses. This clinic has led the way in establishing oral implant restoration as a routine procedure for clinical practice.

In tandem with the pioneering work in oral implant reconstruction and following the recognition of long-term success of osseointegration, this work was extended to orthopaedics for small and large joint replacement. The first orthopaedic use involved small joints such as the inter-phalangeal joints of the hand for advanced osteoarthritic disease, and large joint replacement followed for diseased knees, elbows and hips. Of particular significance is the use of the osseointegration technique for the treatment of limb amputees, where a bone anchored prosthesis may restore function as well as "sense of function" (now termed osseoperception), to an extent unprecedented with previous removable prosthetic rehabilitation.

The principles of oral implant reconstruction, were also applied to maxillofacial rehabilitation and bone anchored hearing aids. As a result, recipients are able to regain confidence in the use of their prosthesis as well as confidence in social interaction to an extent that was not previously possible. In addition, the surgical management of extreme oro-facial abnormalities and their reconstruction with the use of implants, has pioneered an advanced surgical approach to previously hopeless clinical cases.

Professor Brånemark has received many prestigious awards from the international community in recognition of his work.

Professor Brånemark has been tireless in his pursuit of biological truth and clinical excellence. The significance of his pioneering work has helped thousands of individuals return to a normal life; has established new disciplines in medicine and science; and has explored the depths of biological science and the body's responses - particularly bone and the vasculature, to loading and to bone repair. These contributions to medical and dental science have ensured a unique place in the history of medicine and dentistry for Professor Per-Ingvar Brånemark.

Chancellor, Professor Brånemark is unable to be present today. I invite you to confer the degree of Doctor of Dental Science, *honoris causa*, in absentia, and I ask Mr Jorgen Frotzler, Counsellor at the Swedish Embassy, to accept the award on his behalf.