# New Bioactive Bone Cement to Treat Spinal Fractures in the Elderly

The Department of Orthopaedics and Traumatology, Faculty of Medicine, HKU, has developed a new bioactive bone cement. This bone cement resembles natural bone strength as well as biological properties, and consists of strontium-containing hydroxyapatite (Sr-HA) filler, which improves the adhesion between the bone cement and bones, facilitates bone growth and recovery.

The development of this bioactive bone cement is aimed at the treatment for internal fracture fixation, especially for spinal fractures in the elderly. It is injected in the spine to replace the damaged bone tissues because bone growth in the elderly is minimal. And it is expected to last 20 to 30 years. Clinical studies showed significant pain reduction after surgery.

Although this product is being developed mainly for the use in osteoporotic spinal fractures currently, it can also be used in other applications such as plastic surgery and dentistry. However, the bioactive bone cement is not suitable for young people, bone growth is hindered because the bioactive bone cement is insoluble in the body.

The Department has been developing biomaterial implants since 1997. The bioactive bone cement has US and international patents. And the bioactive bone cement has passed the clinical trial in PRC recently, and the Department is planning to treat patients with hip fractures using the new bioactive bone cement.