

Bone Bank Promoting Bone Donation and Cost-effective Allograft

Allograft is more cost-effective when compared with other treatment alternatives for bone grafting and reconstruction. The supply of donated bones would reduce medical expenses and provide physicians and patients with another treatment option.

Established in 1983, the bone bank in the Queen Mary Hospital, the University of Hong Kong, is one of the large-scale bone banks in Hong Kong. Bone banks store bones from donations upon death and after surgeries. Bones can be classified into two types: cortical bones and cancellous bones. Cortical bones are major for structural reconstruction and strengthening while cancellous bones are usually for bone defect restoration. Cancellous bones are more commonly utilized than cortical bones for the better stimulation of cell growth after transplantation. Cancellous bones can be ground and used to restore bone defects.

Cortical bones can be found in the upper and lower limbs while cancellous bones commonly come from femoral heads. All the large bones in the limbs will be removed if patients agree to donate their bones upon death. Some patients agree to donate their removed bone parts after surgeries. These patients may have femoral neck fractures or joint diseases requiring total hip replacement surgeries.

The transplantation of artificial materials is an alternative if no donated bone is available. However, artificial materials are very expensive while donated bones are free, and no rejection will occur after bone transplantation.