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Bone graft substitute materials

With the growing number of surgical interventions for the treatment of bone defects Bone Graft Substitute Materials (BGSM) provide alternatives to allograft and auto-graft. In some circumstances BGSM may be mixed as an expander with Auto-graft materials. However, the use of Bone Graft Substitute's means that donor site morbidity associated with obtaining Auto-graft does not occur. There are various types of BGSM, they can be divided into those which are based on calcium phosphates and those that associated with more organic materials such as De-mineralized Bone Matrix (DBM). There are many BGSM available for the surgeon to choose from. The compositions and structure of these Bone Graft Materials are associated with the degree osteo-conductivity and in some instances these Bone Graft Materials have shown to be osseo-inductive. The nature of this osseo-integration will be explored.

Biography

Gordon Blunn is a bio-engineer at the Institute of Orthopedics and Musculoskeletal Science at University College London. He is based at the Royal National Orthopedic Hospital. He has been at this Institution for 25 years and during this period of time he has investigated the use of the fixation of implants to the skeleton. He has translated a number of novel treatments and designs into patients, which has enhanced implant fixation. He is currently the president of the British Orthopedic Research Society. Over the last 5 years he has secured in excess of £3.6 million in funding, holds the position of Chief Scientific Officer for Stanmore Implants Worldwide Ltd. and is co-director of the London Implant Retrieval Centre (LIRC). He has extensive research experience in orthopedic medical devices, materials and musculoskeletal tissues. A number of his research projects have been translated into clinical practice. He has worked on the reattachment of tendons to bone and to implant surfaces, the integration of implants with the skeleton, the wear of implant bearing materials and the use of bone graft substitute materials. Recently his research has focused on the design and development of implants, retrieval analysis and reconstruction of bone and joints. He has published over 150 papers in peer-reviewed journals; holds a number of patents on medical devices as well as being a scientific adviser to a number of SMEs.

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