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日　時: 2014 年 5 月 26 日(月) 16 時 30 分~18 時 00 分

場　所: 実習館 2 階 総合歯科医学研究所セミナールーム

演　者: David M Findlay 氏(アデレード大学・教授)

タイトル: OSTEOCYTES: SOMETHING FOR EVERYONE (骨細胞に関する研究)

Osteocytes are the most abundant cells in bone and arise from osteoblasts that are incorporated into bone during bone formation, forming a dense network of cell bodies and interconnecting cell processes. Their location within the mineral matrix of bone gives them the unique ability to sense and/or respond to environmental influences that are important to the maintenance and wellbeing of bone. For example, osteocytes can detect and initiate bone repair in response to microcracks in the bone matrix. An important part of this bone remodelling action of osteocytes is their production of RANKL and other key cytokines involved in the recruitment and differentiation of osteoclasts. They have also been shown to express angiogenic factors, also required for bone remodelling. In fracture, evidence exists that osteocytes may serve as stem cells, de-differentiating before participating in new bone formation. In response to increased loading of bone, osteocytes are able to orchestrate the formation of the additional amount of bone required to meet the increased load demands. Osteocytes are also part of the complex metering system of the body that ensures homeostatic control of circulating calcium and phosphate. Recently, it has also been shown that osteocytes may regulate haematopoiesis in the bone marrow, the mobilisation of stem cells from their bone marrow niches, energy metabolism, participate in bone muscle crosstalk, and more. This talk will focus on the work of our group to elucidate osteocyte biology and pathophysiology, including the anti-anabolic and pro-catabolic actions of the osteocyte product, sclerostin.

担当：硬組織疾患制御再建学講座　　宇田川　信之