



Lecture Abstract

Dr. Christopher McCulloch, Toronto/CA

University of Toronto, Canada; Scientist

Main implantological topics:

- Cell adhesion biology in fibroblasts and osteoblasts

Professional skills:

- Cytoskeleton and cell imaging

Specific surfaces for specific patients or one surface for all?

Implant surfaces are critical, defining elements in mediating osseointegration and also impact important immunological host-defence relationships during the healing phases after implant placement. Very recent research indicates that the nature of implant surface topography and variations of surface energy can regulate stress response genes in inflammatory cells and osteoblast precursor cells. In view of the increasing number of patients with systemic diseases such as diabetes who are seeking dental implant treatment, the nature of the implant surface may be an important variable when considering treatment planning options and the likelihood of implant success. This presentation will consider host-response biology in the context of dental implant surfaces and will provide the audience with information to enable them to consider whether specific types of implant surfaces should be chosen for certain types of patients with modified host responses. In the context of bone biology and immune cell function, Dr. McCulloch will address the critical question of implant surfaces in immune-compromised patients and particularly in patients with diabetes and dysregulation of cell-mediated immunity.