

BGRF

BIOLOGY GRADUATE RESEARCH FORUM

2019 Laudenbach Lecture



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University of Calgary**

When most body tissues heal after an injury, they recruit specialized cell types known as progenitors (or stem cells/MSCs) to assist in the process; these cells are thought to reside locally in the tissues and are activated when an injury occurs. Once activated, progenitors can recruit different cell types to repair/regenerate the tissue and heal the injury. In contrast, the cartilage in knee joints has poor healing capacity and patients with cartilage injuries are often left with chronic pain and disability. To create new treatments for cartilage injuries, we first need to understand how progenitor cells react when cartilage is damaged and if/how the inflammation in response to the injury affects healing. We have employed methods to study progenitor cells in the knee joints of mice and track them after a cartilage injury to see how they react. Certain strains of mice (“super-healers”) show improved wound healing and regeneration of cartilage post-injury. We have examined differences in progenitor cells from wild-type and super-healer strains that might shed light on the super-healer phenotype. We have also examined if the super-healer phenotype can be transferred to non-healing wild-type mice through bone marrow transplant. This work will increase our understanding regarding local progenitor cells and if/how they are able to contribute to cartilage regeneration. Our eventual goal is to develop new, less invasive treatments for patients with cartilage injuries and/or Osteoarthritis.

Friday, October 18th

12:30 pm, BGS 0165

Tea and coffee provided