

PCL/22/05 – The relationship between the tumour phenotype, JAK/STAT signalling, systemic inflammation, body composition and survival in patients with operable colorectal cancer.

The aim of this study is to establish an overarching explanation for muscle loss and reduce ability to perform activities of daily life seen in patients with cancer. Many attempts to address muscle loss, anorexia and reduced physical function, termed cachexia, have been made over the years. These include nutritional support programs and targeted exercise regimes. However, most of these interventions have at best only produced a minor improvement in patient weight loss and have not improved patient quality of quantity of life. We think that the body's own immune system is critical in this but we need to fully understand this. Using a specific type of cancer, bowel cancer, as our test cancer, we will examine how the immune system influences loss of muscle and other factors in cachexia. There are currently medications in use to treat different medical problems such as arthritis and in patients with advanced cancers which act on the immune system. In addition, several animal based studies have shown the importance of the immune system in cancer cachexia. This study will allow us to understand this interaction between the immune system and muscle. This could potentially allow us to use existing medications to treat cancer cachexia to improve both the length and quality of patients' lives and to allow interventions such as nutritional and exercise support mentioned above to become more effective.