

## **Fish oil to prevent asthma exacerbations in patients with ALOX5 polymorphisms**

Dr. Kenyon's research group is studying the effects of the supplemental intake of enriched omega 3 fatty acids in patients with moderate to severe asthma. Some asthmatics produce a large amount of inflammatory proteins called leukotrienes. These proteins contribute to wheezing and inflammation in the airway. Inhibiting the detrimental effects of leukotrienes is a key goal of controller therapy in severe asthmatics. Some asthmatic patients appear to have specific mutations of the gene called ALOX5. This gene regulates the production of the inflammatory leukotrienes. Omega 3 fatty acids can interfere with the production of leukotrienes and this may benefit asthma patients. The hypothesis of Dr. Kenyon's study is that omega 3 supplements combined with a patient's asthma medication regimen can decrease the number of minor asthma events compared to patients not receiving the supplements. Furthermore it is hypothesized that the patients with the specific ALOX5 gene mutation will receive the greatest benefit of the treatment. To test the hypothesis, asthma patients will undergo genotyping of the ALOX5 gene and will be treated with omega 3 fatty acids or placebo over a nine-month period. It is anticipated that this strategy will allow the determination of which asthma patients will benefit the most from supplements of omega 3 fatty acids.