**Christopher Byrne**

**'Non alcoholic fatty liver disease (NAFLD) and cardiovascular disease'**

Ectopic fat accumulation in tissues such as liver is termed non alcoholic fatty liver disease (NAFLD) and it is now evident that this condition is potentially harmful and associated with important liver, and cardio-metabolic consequences. NAFLD represents a spectrum of fat-related liver conditions from simple steatosis or fatty liver, to non alcoholic steatohepatitis (NASH), fibrosis and cirrhosis. Prevalence estimates for non alcoholic fatty liver disease (NAFLD) range from 17% to 33% in the general populations and it has been estimated that NAFLD exists in up to 70% of people with type 2 diabetes. In people with type 2 diabetes, NAFLD is the most frequent cause (~80%) of fatty liver diagnosed by ultrasound. NAFLD is a risk factor for type 2 diabetes and is also a risk factor for cardiovascular disease (CVD). In some people NAFLD may cause end stage liver disease requiring liver transplantation, with progression to severe fibrosis, cirrhosis and even hepatocellular carcinoma.

NAFLD is strongly associated with insulin resistance and other cardio-metabolic risk factors associated with metabolic syndrome such as dyslipidaemia (hypertriglyceridaemia and low HDL-C), hyperglycaemia, hypertension and central obesity. When NAFLD occurs in people with type 2 diabetes it is often difficult to obtain good glycaemic control. Consequently strategies to treat NAFLD and to improve whole body insulin sensitivity may both contribute to prevention of type 2 diabetes and to decreased risk of CVD. The presentation will discuss:

- NAFLD definition in relation to metabolic syndrome and type 2 diabetes
- A case report of a typical patient with type 2 diabetes and NAFLD showing the use of imaging in the diagnosis of NAFLD
- Relationships between NAFLD, type 2 diabetes & cardiovascular disease
- The benefit of physical activity and lifestyle for NAFLD
- The importance of fatty acids in the aetiology and treatment of NAFLD with results from the WELCOME study.