

**Jim Mann, CNZM, PhD, DM, FRACP, FFPHM, FRSNZ**

Professor in Human Nutrition and Medicine, University of Otago, Dunedin, New Zealand. Jim Mann has been Professor in Human Nutrition and Medicine at the University of Otago and Consultant Physician (Endocrinology) in Dunedin Hospital for the past 28 years. Previously he was a University lecturer at Oxford and a Physician in the Radcliffe Infirmary and John Radcliffe Hospital. He is Director of the World Health Organisation (WHO) Collaborating Centre for Human Nutrition, the Edgar Diabetes and Obesity Research Centre at the University of Otago and principal investigator for the Riddet Institute, a national Centre of Research Excellence at Massey University. His research has been in the fields of lipids and carbohydrates as they relate to diabetes, coronary heart disease

and obesity. He has been involved with national and international government and nongovernmental organisations in guideline development relating to diabetes, cardiovascular disease, cancer and nutrition. He has been author and coauthor of over 300 publications in peer-reviewed journals, written and edited textbooks and popular books. In 2004 he received the Sir Charles Hercus Medal of the Royal Society of New Zealand. He was appointed a Companion of the New Zealand Order of Merit for services to Medicine in 2003 and in 2012 the first recipient of the *Himsworth Award* given by the European Association for the Study of Diabetes (EASD/DNSG) for his contribution to nutrition research in diabetes.

**Andrew Reynolds**

Andrew is a PhD candidate undertaking research on glycaemic regulation in T2 diabetes under the guidance of Professor Jim Mann at the University of Otago. The structural integrity of dietary fiber and resultant physiological effects form part of his research. Andrew views a future role in informing evidence-based policy for non-communicable disease prevention and management

Dietary Fibre as a marker of carbohydrate quality

Dietary fibre has been defined by Codex Alimentarius to include both synthetic and extracted carbohydrate polymers as well as polymers naturally occurring in food, with 10 or more monomeric units which are not hydrolysed by endogenous enzymes in the small intestine of humans. Synthetic and extracted fibres must have a physiological effect and benefit to health that has been accepted by competent authorities. A substantial body of epidemiological evidence demonstrates the benefits of fibres naturally occurring in food in terms of several hard clinical endpoints without any untoward effects. These findings combined with the potential of such fibres to favorably influence gastrointestinal function and a wide range of cardiometabolic measurements have led to the widespread acceptance of dietary fibre naturally occurring in food as an acceptable marker of quality in carbohydrate rich foods. While synthetic and extracted fibres may well have health promoting physiological effects, they are typically added to manufactured foods which may be inappropriately energy dense and or nutrient poor in terms of essential micronutrients. Furthermore, there is currently insufficient evidence that synthetic and extracted fibres are free of long-term side effects. Therefore we conclude that total dietary fibre as currently defined is not necessarily a marker of carbohydrate quality.

Learning objectives:

1. Understand the complexity of defining dietary fibre.
2. Evidence available for linking different dietary fibres with health outcomes.
3. The relevance of the vehicle of delivery for synthetic and extracted fibres.