Thomas MS Wolever, MD, PhD, DM

Thomas Wolever obtained a Bachelor of Medicine and Bachelor of Surgery from Oxford University, UK in 1980, a PhD in Nutritional Sciences from the University of Toronto in 1986 and a Doctorate in Medicine from Oxford University in 1993. His current position is Professor and Graduate Coordinator in the Department of Nutritional Sciences, University of Toronto. He has the following cross appointments: Professor, Department of Medicine, University of Toronto; Scientist, Keenan Research Centre of the Li Ka Shing Knowledge Institute, St. Michael's Hospital, Toronto; Member, Active Medical Staff, Division of Endocrinology and Metabolism, St. Michael's Hospital, Toronto; and Member, Consulting Medical Staff, Centre for Addiction and Mental Health, University of Toronto.

Thomas Wolever's research interests are the effects of dietary carbohydrates on human physiology and metabolism. He is, perhaps, most well-known for work on the glycaemic index which was as first developed by Dr. David Jenkins and Dr. Wolever, along with other collaborators, while he was a medical student. He has written or co-authored over 300 papers in peer-reviewed scientific journals, and also authored a book entitled: *The Glycaemic Index: A Physiological Classification of Dietary Carbohydrate* published in 2006 by CABI (www.cabi.org). In 1997 he founded GI Testing, Inc. to provide confidential GI testing services to industry. To cope with the high demand for GI testing and to enable a wider range of clinical research services to be provided, Glycemic Index Laboratories, Inc. (www.gilabs.com) was formed in 2004; a corporation of which Dr. Wolever is President. More important than anything else, Dr. Wolever is married with 3 children aged 26, 24 and 17 years. He enjoys orienteering, cycling and recorder playing.

Glycemic response/index/load: Methodological issues

Controlling post-prandial blood glucose is recognized as being beneficial for health. However, since glycemic responses can be quantified in numerous ways, it is important for scientific and regulatory purposes to understand the meaning and analytical performance of different methods. I will review the definitions of glycemic response (GR), glycemic index (GI) and glycemic load (GL) and the methods used to determine them. When comparing the GR of foods, the results obtained, and their precision, depends both quantitatively and qualitatively on the methods used. The 2010 ISO method for measuring the GI of foods includes several new features compared to the original (1981) method. The between-laboratory CV of the original GI method is 30% more precise than comparing GR; recent data suggest the ISO method is 25-30% more precise than the original method. The 2010 ISO method for GI is recommended as a marker of carbohydrate quality precise enough for regulatory purposes.

Learning objectives:

1. Be able to define the meaning of GI.
2. Be able to state the difference between GR, GI and GL.
3. Be able to list 2 of the new features of the 2010 ISO method for determining the GI of foods