

Polyunsaturated Fatty Acids and Human Health: Getting the Balance Right

Session Description

The quality of fat in the diet remains an important focus for understanding the impact of diet on human health and disease. There has been a recent research effort in understanding the differential effects of the omega-6 and omega-3 polyunsaturated fatty acid families and of the individual members of those families. There has been improved understanding of the mechanisms of action involved (cell signalling, gene expression etc.) in bringing about the fatty acid actions. This Symposium will address these points and will provide a high level update on effects of fatty acids on disease outcomes in children and adults, on the mechanisms of action involved, and on considerations relevant to fatty acid metabolism and dietary recommendations for different fatty acids.

Purpose

The objectives of this Symposium are to provide a high level update on effects of fatty acids on disease outcomes in children and adults, on the mechanisms of action involved, and on considerations relevant to fatty acid metabolism and dietary recommendations for different fatty acids.

Outcomes – knowledge and action points

- Improved knowledge and understanding of the roles of different families of polyunsaturated fatty acids in human health and disease and of their mechanisms of action.
- Greater understanding of the meaning of the omega-6 to omega-3 ratio.
- An appreciation that different members of the same fatty acid family can have different actions.

Session chair/moderator:

Philip Calder, University of Southampton

Session Topics and Speakers:

Topic 1: *The effects of cholesterol and PUFAs on coronary heart disease in Japan*

Speaker: Tomohito Hamazaki, Japan (TBC)

Topic 2: *Dietary requirements for omega-6 and omega-3 PUFAs – is the balance relevant*

Speaker: Peter Howe, Australia

Topic 3: *The effects of long chain omega-3 PUFAs on gene expression – in vitro and in vivo*

Speaker: Andy Sinclair, Australia

Topic 4: *Inflammatory processes – can fatty acid nutrition make a difference?*

Speaker: Philip Calder, United Kingdom

Topic 5: *PUFA supplementation and health outcomes in Thai school children*

Speaker: Alice Thienprasert, Thailand