

PRESS RELEASE

BRAIN IMAGING TO SHOW HOW DIET AFFECTS OUR BRAIN

Brussels, 1 August 2013 – What we eat, or do not eat, may have an important impact on our cognitive ability and mental performance. Changes in brain functions can be long-term events difficult to demonstrate by traditional means. Brain imaging offers the critical opportunity to study how nutrition affects brain functions. In a review published today in *the British Journal of Nutrition*, an ILSI Europe expert group explained how to use 8 types of brain imaging techniques for the detection of nutrient impacts on brain structure and function, during lifespan but especially during development and decline.

The brain is the most complex organ in the human body. It contains approximately 100 billion neurons, each connected by synapses to several thousand other neurons. The brain is a highly active organ that utilises a large proportion of total nutrient and energy throughout the lifespan. Furthermore, the development and repair of neural tissue depends on the proper intake of essential nutrients, minerals and vitamins. Despite great progress in understanding the relations between brain function and nutrition, research is hindered by practical feasibility or methodological constraints.

This document reviews each of eight imaging techniques, the information provided, suitability for different populations, past use in nutrition interventions and utility for future investigations. “The principal added value of brain imaging measures for human nutritional intervention studies is their ability to provide unique *in vivo* information and to relate structural, metabolic and electrophysiological changes to mental performance”, explained Dr Sizonenko from the University of Genève. The review points to the ability of brain imaging to detect the very early impacts of nutrients on structure and function.

The paper was commissioned by the Nutrition and Mental Performance Task Force of the International Life Sciences Institute, Europe. A key aim of this project was to provide guidance for incorporation of brain imaging techniques into nutrition intervention protocols. It draws on the combined experience of academic and industry experts in both imaging modalities and nutrition.

To read the publication, click [here](#).

Stéphane V Sizonenko *et al.* Brain imaging and human nutrition: Which measures to use in intervention studies? *British Journal of Nutrition* 110(S1):S4-S23.

About ILSI Europe

The International Life Sciences Institute, Europe is part of a non-profit, worldwide foundation established in 1978 to advance the understanding of scientific issues relating to nutrition, food safety, toxicology, risk assessment, and the environment. ILSI Europe brings together scientists from industry, academia and the public sector to jointly provide the best available fact-based, objective science on key public health issues.

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