

# Scholar Journal of Applied Sciences and Research

## Current interest: Loss of Hunger Sensations as Cause of Alimentary Diabetes and Malnutrition

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### Editorial

I have two Children from Vanna Pastacaldi: Iacopo, orthopedic surgeon, director of a hospital in Sommerset (UK) and Lorenzo, PhD in electronic engineering, currently in the management of ST Microelectronics (Grenoble, FR). I made humanistic studies during the first 7 years after graduation and wrote two Italian books: Human differences and a study on Renaissance. Human differences almost coincide with a relation of Cabanac (Laval University) to the SSIB meeting at Mc Master University, Hamilton 1994.

I (born 1933) directed the Gastroenterology Research Unit, a third level referral center in the department of Pediatrics of the University of Florence (Meyer hospital) from 1965 to 2000. In Tuscany I first diagnosed celiac disease by the Watson capsule. I worked at the Cornell University for a joined research with the University of Florence on energy expenditure in children. A long term strategy was designed with Giuliano Parrini, prof. of Physics (Firenze, It), Andrea Giommi, prof. of Statistics (Firenze, It), and Cutberto Garza, Boston College, Rector. Three students came from Amsterdam Medical Center to learn "Initial Hunger (IH)". The Unit published 150 scientific articles, more than 50 in international Press [1-61].

**Main achievements:** Hunger can be taught; and an Initial Hunger Meal Pattern can be constructed (IHMP = Three IH arousals per day). IHMP decreases energy intake, mean preprandial BG, body weight, insulin resistance and fecal energy loss. The sequence of 21 preprandial BG measurements in a week (Mean BG) is stable and comparable through months in the single individual and stratified in population.

Mean BG assesses the individual stratum (individual level) of energy consumption/balance/expenditure/Insulin Sensitivity:Resistance/overall immune stimulation/inflammation. Half immune cells of the body are in the small intestine. Meal absorption develops in a conflict between mucosa and bacteria. This individual level (Mean BG) is responsible of reflexes that produce brief reversible functional disorders as well as vascular and malignant diseases in the long term. Approximation to low levels ( $76.6 \pm 3.7$  mg/dL) is associated to an even energy balance in blood and ideal body weight and to insulin sensitivity, the healthy goals in eating [25-61].

We studied growth, RMR and energy expenditure by diurnal meal patterns by food diaries with 3 preprandial blood glucose (BG) measurements per day (mean error 6%) in children, and added glucose tolerance tests (GTTs) in clinically healthy adults, to assess insulin sensitivity when presenting with functional disorders or overweight. By synchronous BG measurements, we taught patients to distinguish

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hunger sensations that are conditioned and associated with incomplete exhaustion of previous energy intake from those that arise after meal suspension with complete exhaustion. The mean suspension was two hours with a range not beyond 48 hours. We obtained meal-by-meal fasting nutrient levels (low BG) prior to the next meal and suppressed fattening/insulin resistance. This pattern has been termed the Initial Hunger Meal Pattern (IHMP). Ignoring these sensations contributes to increase obesity and diabetes in children. Asthma, autism, birth defects, dyslexia, attention deficit-hyperactivity disorder, schizophrenia have increased in the last half century [35-61].

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