

## Nutritional Chronology: A Missing Curriculum in Medicine

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### Editorial

Despite other fields of medicine, such as pharmaceutical chronology, there is almost no considerable mention of importance of “timing” in nutrition, in the literature. There are mounting evidence that timing of taking vitamins, minerals, polyphenols, drugs, sleeping, and exercise has a deep effect on the nutrition physiology.

Ingestion of high protein containing food after resistance exercise has been shown at many different time points to stimulate increases in muscle protein synthesis and cause minimal changes in protein breakdown and consequently can increase overall balance [1,2]. Unfortunately, the optimal time point for supplementation has not yet been demonstrated [3].

In recent years, there appeared a popular nutritional strategy called “nutrient timing” which involved the consumption of several nutrients in different combinations during exercise. It is pointed out that the timing of nutrient consumption may be more important than the absolute daily intake of nutrients [4] and subsequently can produce dramatic improvements in body composition.

A number of literatures exist on the ergogenic potential of ingesting sodium bicarbonate (NaHCO<sub>3</sub>) before short-term, high-intensity exercise however very little exists on optimal loading times. A recent study about the chronology of ingesting NaHCO<sub>3</sub> indicated that at 180 minutes post ingestion, an individual is less prone to experiencing significant GI discomfort [5].

In a study with patients having severe acute pancreatitis and developing septic shock, adjuvant supplementation therapy with selenium has revealed that selenium supplementation improves antioxidant status in critically ill patients and the improvements depend on quantum of dosage and supplementation time [6].

Inhibition of alpha-glucosidase activity by anthocyanins and reduction of blood glucose levels after starch-rich meals is reported as the mechanism of a proven clinical therapy for controlling type II diabetes [7]. All these variables may have a significant effect of the consumption, metabolism and the dose of the nutrient in the blood stream which is directly related with its function.

There are a number of important points to be considered to better analyze the effects of timing of the nutrients and their beneficial effects.

The rate of the body metabolism at different times in a day, the synergistic effects of nutrients, consumption of several modifiers such as caffeine or polyphenols which can act on metabolic enzymes and the microbiota composition as well as timing of probiotic consumption are some of the examples.

There should be lots of unpublished data, just because there was not an interest and or mention of nutritional chronology. There must be huge amount of academic experiences which has never been revealed. Author’s personal and unpublished data, shows that taking Vitamin B1 300 mg plus B complex in breakfast, and taking 600 mcg of Biotin in lunch time significantly helps obese patients to lose weight. There are lots of personal experience that timing of taking vitamins and/or polyphenol-rich foodstuffs (such as vinegar) has different, and in some cases opposite effects. The time has reached to announce for a conference and to gather proceedings about this issue as a preliminary step.

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