

## Oral-presentation in the context of the 2nd ITU Science and World Conference (Magglingen/Schweiz, 07-09.02.2013)

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My presentation gives an overview of common dietary supplements in Long Distance Triathlon.

The structure of my presentation will firstly focus briefly on the current situation of Triathlon Sport in Switzerland, Austria and Germany, with an in-depth look at Bavaria. I will further report on the aims and methods of the survey, before finishing with the results and the conclusion of the survey.

At this point it is important to mention that it is always difficult to obtain accurate numbers of triathletes in each country. This is because not all athletes are official club members. According to the available sources it is possible to assume that 0.25% of each country's population are triathletes. Regardless, what is definite is that these numbers are set to increase further as the popularity of Triathlon in these countries is booming and has almost become a way of life.

The topic of dietary supplements was a part of our retrospective Online-survey "Evaluation of the risk factors of Long Distance Triathlonsport". We also evaluated general information in regards to this, such as split times and the trainings year structure, anthropometrics, training habits and injuries with respect to disciplines and complaint portfolios.

Regarding dietary supplements, the aim was to generate a general overview of dietary supplements in Long Distance Triathlon with a special focus on how many triathletes are users, usage by gender, overdoses and guidance by experts.

The link to our online-questionnaire, which was translated into five different languages, was sent to 30,000 athletes via email. The questionnaire was answered by 1158 athletes, 990 male and 168 female respectively, from 43 nations. The survey took place between July 2011 and February 2012.

With regards to the topic of dietary supplements in Long Distance Triathlon, 66% of the athletes turn to such aids. 66% in the case of male athletes, 68% for females.

The currently showing table represents an overview of the common dietary supplements. It can be clearly shown that these ingredients, which strengthen the immune system and have a scavengers (antioxidants) function are in the first half of the table. Those that are well known in Triathlon sport through advertising are however apparently not well-used amongst the long-distance triathletes and are to be found in the last third of the ranking! It is interesting to note that L-carnitine and coenzyme Q10, which are important for long endurance sports (lipometabolism) are to be found in the last third of the ranking too! A clear gender gulf in favour of the male participants is clear to see in the case of essential amino acids, especially BCAAs, which support muscle generation and regeneration.

The following 4 slides show a few of the previously mentioned dietary supplements. The dosage has been expressed according to gender, whereby the green part of the chart represents

the recommended daily dose. The blue shows the zone below and the red an intake over the recommended dose. The given values have purely been generated by the dietary supplements and are separate from natural food intake. Therefore it is possible to speak of overdoses in the cases of most triathletes.

Here we have the most-taken dietary supplement, magnesium, which is involved in over 300 physiological functions: metabolism, nerves, and muscle activities. In the case of the essential amino acids, we have a great increase in the green zone, as well the greatest disparity in the general percentages comparing the male and female intake.

Next Vitamin B, main supporter for the energy generation and essential for nerve function is shown together with zinc, essential for the immune system and for metabolism

Colostrum, is drawn from cow's milk. This is a dietary rich combination of immune activating substances and growth enhancers and is well known in Triathlon sport by way of adverts. Secondly, we have Creatine, which is often used for activities requiring strength and speed.

Next we have the dosages of l-carnitine and coenzyme Q10, both of which are important for endurance performance regarding lipometabolism.

39% of the participants, who reported having taken dietary supplements at least once, take them on a regular base, 17% straight before competition and 10% as a block dietary course.

Concerning the reasons for taking dietary supplements, 67% take them to improve their regeneration, 45% to increase their resistance to disease and 32% in order to prevent injuries. 26% take them to improve their endurance and 12% for strength reasons.

40% of the participants, who reported having taken dietary supplements, noticed an improvement in their performance as a result of taking dietary supplements.

Mostly, the intake is governed by the athletes themselves (48%) and/or, supporting literature (36%). Followed up with a physician, trainer, pharmacist and physiotherapist.

The intake is hardly ever done under the guidance of a physician. Only 12% of the men and 19% of the women take dietary supplements under physician supervision.

It is often the case amongst Long Distance Triathletes that overdoses of the used dietary supplements occur. An overdose can place an extra burden on the body and have negative effects. Due to the complex nature of this topic, guidance by experts is strongly recommended and more research is needed in this area!