

A STUDY OF THE DIETARY PRACTICES OF ELITE AUSTRALIAN MALE TRIATHLETES

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The triathlon is a fast-growing sport that provides much scope for the role of athletic nutrition. The characteristic nutritional demands of endurance exercise are involved: optimisation of fuel substrates, fluid and electrolyte balance, basic nutritional support of a high energy expenditure training program etc. Triathlon events vary greatly in terms of courses, conditions and distances, from the short events of 1km swim/30km cycle/10km run, to the Ironman event of 3.9km swim/180km cycle/42.2km run. Each of the individual sports involved has specific features that favour special practices or create special needs. The combination of all such aspects provides a nutritional challenge, and it is of interest to see how this is answered by the athletes competing in the sport.

A nutritional study was carried out on a group of elite Australian male triathletes. The following information was collected by interview from twenty-five of the leading competitors in the country:

- a. Personal and training data
- b. Anthropometric characteristics: height, body mass, circumferences (measured at 3 sites), skinfold thicknesses (measured at 6 sites), prediction of % body fat and lean body mass (Durnin and Womersley 1974).
- c. Description of dietary practices: basic dietary principles, description of typical training diet (dietary history and food frequency), and description of special practices.
- d. Quantitative analysis of training diet: A 7-day food diary was recorded by triathletes following a standardised technique. A computer program based on Metric Tables of Composition of Australian Foods (Thomas and Corden 1977) was used to assess the mean intake of energy, the amount of protein, fat, carbohydrate and alcohol, and the relative contribution of these to total energy intake. Mean intake of 5 vitamins and 2 minerals was assessed. A food classification system was devised to score the usage of different types of food.
- e. Biochemistry: Fasting blood samples were collected for laboratory analysis of blood lipids and measures of iron status.

The group profile shows these athletes to be lean (mean body mass index = 22.2, mean % body fat = 10.5%). They expressed great interest in nutrition, with the majority describing their training diets as high energy/high carbohydrate. Many were concerned about health issues such as reduced fat, sugar and salt intakes. Mean daily energy intake of the group during training was 17.16 megajoules, equivalent to 0.25 MJ/kg body mass/day. Mean daily intake and contribution of nutrients to total energy intake was 134g of protein (= 13% of energy), 627g of carbohydrate (= 59.5% of energy), 127g of fat (= 27% of energy), and 5g of alcohol (= 0.5% of energy). Mean daily intakes of vitamins and minerals were above Recommended Dietary Intakes. Discussion of special dietary practices include weight control, use of supplements, preparation for competition (including carbohydrate loading), pre-event meal, and the intake of food and fluid during training and during events.

The biochemical tests generally fell within laboratory reference standards. High density lipoprotein cholesterol was not elevated to the high levels reported in literature studies of other endurance athletes (mean = 1.16 mmol/l).

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