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## SUMMARY

The need for protein supplementation in marathon runners' regular training has been widely recognized by sports medicine literature, and it has been extensively referenced in papers devoted to sports requiring explosive strength and resistance.

This need is specifically applied in long-distance sports, particularly those sports in which every single training lasts two or more hours: running, swimming and cycling (in the latter, the sports activity lasts three or more hours).

– This study reports the results of the administration of a daily dose (7.5 g) of Gunamino Formula Sport (Guna S.p.a. Laboratories) in 6 marathon runners and 3 triathletes preparing a marathon (London Marathon 2014) and an Ironman (Lanzarote Ironman 2014), who have improved their performance significantly.

**KEY WORDS** SPORTS MEDICINE, ATHLETE, MARATHON, TRIATHLON, AMINO ACIDS, GUNAMINO FORMULA SPORT, CONCONI TEST

# GUNAMINO FORMULA SPORT FOR MARATHON RUNNERS' AND TRIATHLETES' TRAINING – PRELIMINARY STUDY

## MATERIAL AND METHODS

Six marathon runners (aged between 27 and 52 years) have been administered a 7.5 g sachet of **Gunamino Formula Sport** [containing the eight essential amino acids, plus Magnesium and B Vitamins (B<sub>1</sub>, B<sub>2</sub>, B<sub>6</sub>, B<sub>12</sub>) with adjuvant activity and a preparation made from grapes titrated in polyphenol 90% (Powergrape<sup>®</sup>) with proven antioxidant function.

The administration was scheduled half an hour after the prolonged physical effort. Marathon runners (4 M, 2 F) were administered a daily dose of Gunamino Formula Sport for **10 weeks**; the results of both the training sessions and the sports performance (London Marathon 2014) were assessed.

In the case of the 3 triathletes (aged between 26 and 38) the daily intake was double due to the duration of their training session and the fact that it consisted in two daily sessions (swimming and cycling or swimming and running). Also in this case, the administration was scheduled half an hour after the prolonged physical effort.

The results of the training sessions were assessed three weeks before Triathlon Lanzarote Ironman 2014.

The **3 triathletes** underwent a well-known and validated test for sport (Conconi Test, 1982) during the 1st, 5th and 10th week of administration after the training session, in order to establish the evolution and the improvement of the athletes' performance during their training sessions.

The Conconi Test is an indirect method for the definition of the aerobic threshold based on the heart rate changes. The test is effective to assess the aerobic performance in order to establish the intensity of the training session (e.g. in [Table 1](#)).

– The race protocol was performed on a 400-meter racetrack, increasing running speed every 200 meters till achieving the maximum limit.

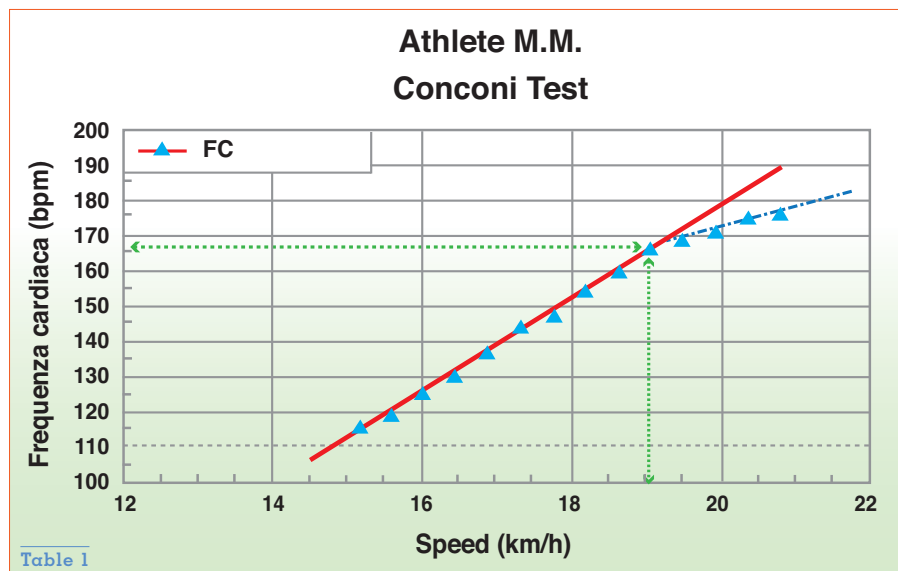
The assessment of the aerobic power is based on the maximum speed performed and on the graph with the relevant evaluation parameters.

The aerobic threshold point shows a specific speed and heart rate for each single athlete (e.g. in [Table 2](#)).

The test ended up when there was no further improvement of the athlete's performance; the "deflection" point is the point where the speed decreases.



<http://www.ctm.uk.com/wp-content/uploads/London-Marathon-Edited.jpg>



The "deflection" points are identified with the maximum heart rates obtained during the test up to 200 meters without further improvement; the speed is in km/h (in brackets) (Table 3).

### DISCUSSION

This kind of training aims at increasing the aerobic power, which is the reason for using a food supplement containing amino acids.

As shown in Table 3, in all cases speed improved remarkably and there was a gradual increase in the heart rate.

Marathon runners could withstand high rhythms over long distances avoiding excessive lactic acid production, and preserving the muscles' physiological function and myofibrillar structure.

The 9 athletes enrolled in this preliminary trial were interviewed about possible side effects such as diarrhea, feeling of abdominal emptiness, and muscle pain.

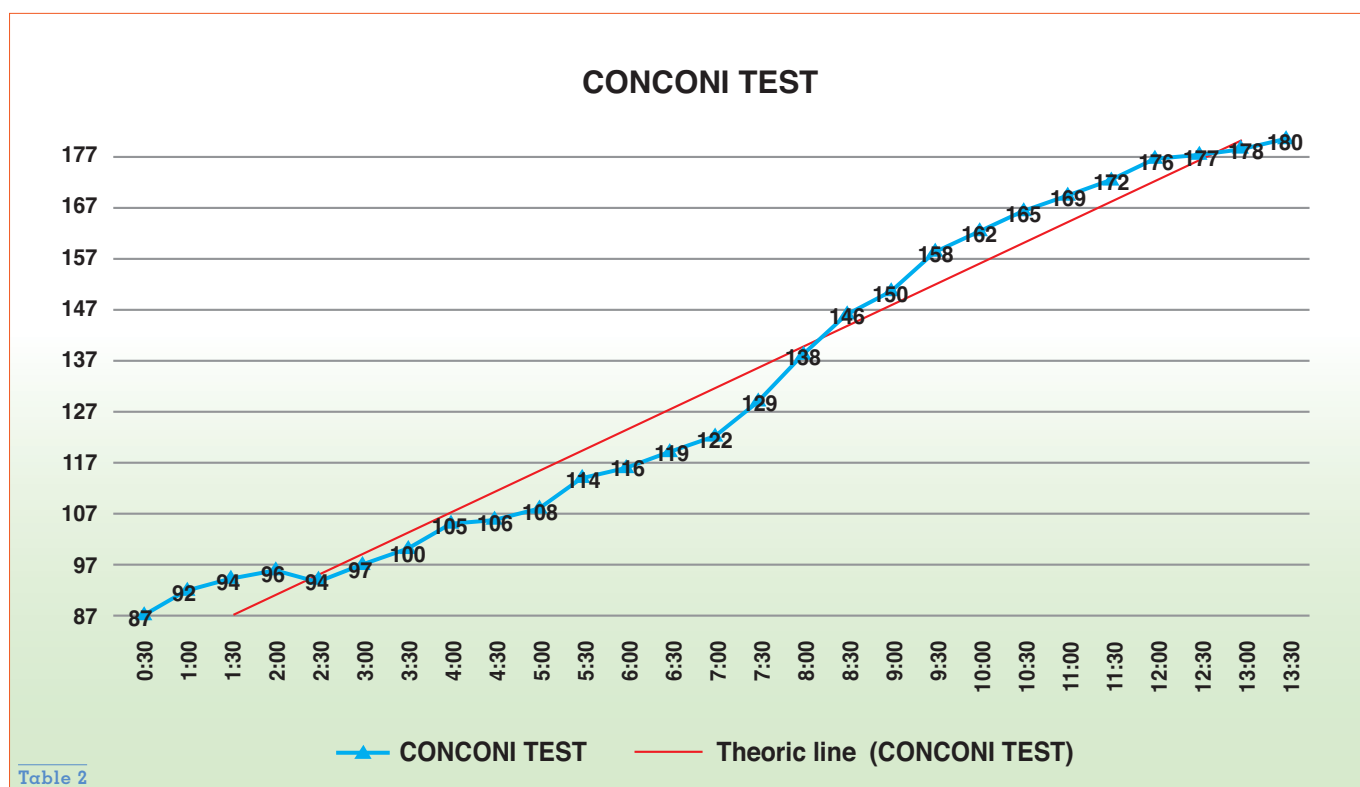
The instruments used were a stopwatch, Timex brand, Ironman Triathlon model and a heart rate monitor Polar brand, model RCX3, with chest strap and external sensor GPS including computer software for appropriate follow-up.

– Both acoustic and visual signs were used: a special signal sounded and two coloured cones were placed every 200

meters to show the athlete where to increase in speed.

### RESULTS

Marathon runners were labelled M1, M2, M3, M4, M5, and M6; triathletes were labelled T1, T2 and T3. M2, M6 and T3 were women.



	1 <sup>st</sup> Week	5 <sup>th</sup> Week	10 <sup>th</sup> Week
M1	159 (16.0)	162 (16.5)	<b>168 (18.5)</b>
M2	166 (14.8)	167 (15.5)	<b>179 (17.0)</b>
M3	160 (16.0)	167 (17.7)	<b>181 (18.8)</b>
M4	152 (14.9)	160 (14.6)	<b>169 (15.2)</b>
M5	155 (14.8)	162 (15.7)	<b>176 (16.4)</b>
M6	149 (13.7)	155 (15.1)	<b>167 (16.3)</b>
T1	167 (17.1)	169 (18.3)	<b>176 (19.8)</b>
T2	169 (17.5)	175 (19.2)	<b>180 (20.2)</b>
T3	174 (16.1)	176 (17.8)	<b>181 (19.1)</b>

Table 3

– All the athletes replied negatively.

They reported positive feedback about the analysed food supplement and declared it had improved their training sessions.

The results are promising and can be reasonably attributed to Gunamino Formula Sport.

– However, in order to obtain scientific evidence of these results, it is necessary to carry out a more thorough study with a similar field test, analyzing the lactate levels in the blood, which would show, in millimoles, the presence of the lactic acid, the muscle endurance and the sports performance when lactic acid is present. ■

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