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CHRIS LEGH TRIATHLETE ADDS SCIENCE TO HIS IRONMAN ARSENAL

World class Australian triathlete, Chris Legh, returns from the Gatorade Sports Science Institute (GSSI)¹ this month with new strategies to combat the world's most grueling triathlon event, the 25th Hawaiian Ironman² on 18 October 2003.

Despite a series of medical problems over the last six years, with the support of the GSSI, a determined Chris won't retire without giving Kona one last try.

"In 1997 during the Hawaiian Ironman I pushed my body to the limit. I was vomiting, had diarrhea and stomach cramps but I just had to finish the race. Just 50 metres from the finish line I collapsed. Shortly after, I had to have surgery to remove one third of my large bowel as it had died. During the race I was so dehydrated my body stopped supplying oxygen and nutrients to my large bowel so that blood could continue flowing to my heart, lungs and muscles – keeping them working", Chris said.

"Over the years I have had a number of medical complications from that surgery but my love of triathlons and the Ironman series keeps me going. When the Hawaiian Ironman turns 25 I want to be there, only this time I'm doing it right."

When Chris turned to the GSSI for help, they put him through his paces by testing his sweat rate, sweat electrolyte content and fluid loss during four hours of moderate intensity exercise in hot conditions in their labs. He cycled and ran for a total of four hours in 31°C and 71% humidity simulating a typical exercise session for Chris.

The researchers at the GSSI found that Chris is a heavy salty sweater, sweating an overall 2.2L per hour and losing 1472mg of sodium per litre of sweat. On average athletes can lose around 1350mg³ of sodium making Chris an above average salt sweater.

During the four hours he lost a total of 8.8L of fluid as sweat but he was only able to drink just 5.5L back. So he finished the test 3.75% dehydrated. Dehydration of just less than 2% can impair performance affecting cardiovascular, heat regulation and blood flow systems. His body temperature rose to 39°C. Temperatures of 39-40°C may be associated with heat exhaustion.

By learning how his body reacts under the pressure of exercising Chris has been able to design a hydration strategy to ensure he stays in peak condition. This involves using Gatorade, a scientifically formulated sports drink which is designed to rehydrate, replenish and refuel serious athletes like Chris.

¹ See Background page for further information

² See Background page for further information

³ Burke L, Deakin V (eds) Clinical Sports Nutrition 2nd Ed (p 378). MacGraw Hill 2000.

Chris now knows that to perform at his peak he needs to:

- Start out hydrated and drink more between training sessions to produce a more dilute urine - pale yellow in colour
- Increase the salt content of his diet
- Consume as close to 2.2L of fluid and 3250mg of sodium per hour as possible, which includes Gatorade with additional electrolytes added.
- Minimise weight loss and monitor his weight before and after training. Weight loss of 2kg is equivalent to 2 litres of fluids lost and at least 2L of fluids to be replaced during recovery.

“Adding Gatorade to my Hawaiian Ironman arsenal has given me the edge I’ve been looking for,” Chris said

ENDS

For further information or to arrange an interview with Chris please call

Lisa Yates Consultant Dietitian/ Belinda Ford Porter Novelli on 02 9463 7600 or 0413 285 494.

Footage and images of Chris’ tests at the GSSI are available on request.

Gatorade helps athletes go stronger for longer⁴ as:

- It contains 6% carbohydrates (6g per 100mL) the optimal amount for fast absorption to provide a readily available source of energy that working muscles need⁵
- It contains electrolytes like sodium (41mg per 100mL) to replace those lost in sweat. Sodium also ensures thirst continues so athletes rehydrate fully. Other beverages turn the thirst mechanism off too soon before rehydration is complete⁶
- Gatorade flavours are designed with active athletes in mind – a great taste so they’ll drink when they need it most - during and after exercise.⁷
- Fluids like Gatorade help the body maintain acceptable body temperatures and thus prevent heat-related illness.

As a result athletes like Chris can use Gatorade as part of a whole nutrition and hydration strategy for peak triathlon performance.

⁴ Below PR et al *Med Sci Sports Exerc* 1995;27:200-210.

⁵ Ryan AJ et al *J Appl Physiol* 1998;84:1581-8.

⁶ Wemple RD et al *Int J Sports Nutr* 1997;7:104-116.

⁷ Gonzalez-Alonso et al *Int J Sports Med* 1992;13:399-406.

Background information

The History of Gatorade

In 1967 a University of Florida research team worked to develop a drink to rapidly replace fluids and help prevent dehydration for their football team the Florida Gators. The beverage created became known as Gatorade as it helped the Florida Gators win their first Orange Bowl. Now more than 30 years of scientific research, conducted all over the world, stands behind Gatorade.

Gatorade was created for a *reason* and that's the difference.

Gatorade Sports Science Institute (GSSI)

The GSSI, a world renowned research facility in Barrington Illinois, began in 1988 and has over the years provided valuable scientific research and education in the areas of exercise, sports science and nutrition. The Institute conducts research and develops education materials for sports health professionals around the world. The GSSI website (www.gssiweb.com) is a wealth of scientific research material written by some of the worlds leading exercise physiologists and sports nutritionists, and is regularly visited for its up to date information. Other Australian athletes who have been tested at the GSSI include cricketer Brett Lee and triathlete Brad Bevan.

Sports Nutrition advice for triathletes

An Australian Gatorade education initiative for coaches and trainers, *The Coaches Edge*, recently published a newsletter article on sports nutrition advice for endurance athletes called "Preparing for the long road ahead", written by the Australian Institute of Sport's own sports dietitian and Ironman athlete Greg Cox. It can be found on www.coachesedge.com.au in the archived articles section.

Fluids recommendations for triathletes

The American College of Sports Medicine recommends athletes consume enough fluid during exercise to minimise dehydration.⁸ For most endurance athletes, in most exercise situations, a fluid intake between 150-250mL every 15-20 minutes (600-1200mL/hr) will help ensure they match fluid losses.

The Hawaiian Ironman

25th Anniversary Ironman Triathlon World Championship October 18 2003

Competitors start the day at 7am with a 3.8km swim in Kailua bay, then a 180km bike ride along the Kuakini Highway, finishing with a full 42km marathon. The professional triathletes will cross the finish line in just under 9 hours.

⁸ American College of Sports Medicine. Position Stand: Exercise and fluid replacement *Med Sci. Sports Exerc* 1996;28:i-vii.