

Zero Calories Five Days 100 Miles

Reminder of what this is for: proof carbs are non-essential, not even for endurance exercise. Doing this event with zero calorie intake puts this beyond doubt. My body can easily tap into 20-30,000 calories of stored fat if I only give it a break from eating, and reducing carb consumption enables this. In a diabetic state you are carb intolerant, so carb avoidance makes the T1 diabetic journey easier and safer

Aches and pains: not enough time spent on recovery after 2 marathons (foam rolling and stretching). I could see today was going to hurt. My body isn't used to running such long distances, but then who's is? A relief to know James was hurting too. We both woke feeling high on energy and not hungry. Although James did flush the complimentary hotel biscuits down the loo just to make sure there were zero absent minded incidents

Lab rat time: weighed in at 77.5kg, so it looks like I'm losing 1kg a day. Calorimetry results were in: fat burning vs glucose burning on day1=73% fat, day2=87%, day3=100%. Resting metabolic rate 23-27,000 (this event has not affected it). 16.2% expired oxygen (air is 21% oxygen, so my lungs are extracting 23% of the oxygen available): this represents a decent mitochondrial efficiency... not quite down to James's 14% but he's done a bit more resistance exercise and built a bit more muscle mass than me! Resting lactate was 2.7 mmol/L a bit lower than yesterday: we really do need to dig into lactate levels in ketosis! Pre-run ketones 5.1 or 6.1 mmol/L

Today's route: beautiful stretch of Kennet & Avon canal finishing in Devizes where we admired the huge lock system. Must come back here and hire a barge. Although I don't fancy up to 5hrs to get through all those locks

Blood glucose management: learning from the past 2 days... today, to deal with the dawn rise I woke an hour early and injected 2U rapid insulin, which kept me within my target range (3-6 mmol/L). Note, a high carb T1 could easily be cycling between 2.5 and 20! Setting off running reduced it down to just below 2.3 mmol/L, and like the last 2 days glucagon kicked in and brought my blood glucose back to quite a normal level of 4.5 - 5.5

Pace: bit quicker today: avg 7:00/km, running at 6:00/km but fewer run/walk cycles to control knee pain. Felt like I was slowing James down a bit as he prefers to run rather than walk to make it go quicker. He does endurance with the mantra: 'every step taken is one less remaining' to manage psychologically. I definitely felt more energetic but muscle and knee pain did slow me down and get me down a bit

Re-thinking T1 diabetes: we inject basal insulin once a day to cover glucose the liver makes through conversion of amino acids in the blood: gluconeogenesis (GNG). But while fasting I'm not injecting any basal insulin to cover that glucose. So what's going on? IMO 'nobody really knows'. My thoughts: my pancreas may still be secreting insulin thereby inhibiting GNG sufficiently while fasting. But when I eat, my intestinal permeability allows LPS particles etc to pass into blood and recognised as a pathogen. This triggers an immune response that drives adrenaline, which signals the liver to raise blood glucose to a higher value to fight infection, which I then require basal insulin to try to bring down. Solution: sort out intestinal permeability with the desired result of cutting insulin requirements dramatically. I have home insulin and c-peptide metering capability now and intend to test out whether I am still making insulin, and to further attempt to demonstrate some increase of insulin production over the long-term: if you want to join me in this please make contact

Day 3: Mon 21 Sept, 30km Marlborough to Devizes



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