

About me:

I was contacted by Ian back in January with a message 'are you a runner'? Well, I used to be, I used to do several half marathons a year but since having 3 children* I seem to pick up hip and back niggles as soon as I crank the mileage up. I'm a practice nurse, and back in 2019 I set my GP Practice up to be a parkrun practice so had been doing that regularly. Other than that no, I'm a gym goer and netballer.



I qualified in 1998 and worked in A&E ending up as a specialist A&E nurse. I was also a Nursing Officer in the Army Reserves for 12yrs which landed me in Kosovo, Iraq and Kenya for extended periods of time. This perhaps explains why when Ian told me more, I was intrigued. I thought about it for a month, but in the meantime I started to pick the mileage up, testing the water.

Re-thinking diabetes is what I have been doing for the last 6 yrs. in 2014 a patient showed me that putting Type 2 diabetes into remission is possible, which ignited my interest and need to know more. I now run two T2 diabetes remission groups within my NHS practice, and have also got involved with T2 diabetes remission projects within various CCG organisations.

The why? (I took part in Zerofive100):

Well, why not?

For me I guess there are a few angles on this. I'm not going to lie, the personal challenge was appealing. I'd read Phinney and Volek** so I know and understand this concept was totally plausible. Even as a lean person I have fat storage well beyond 100 miles and 5 days of fasting so I was keen to explore this and learn.

Why 5 days? Again, why not? As a group we reasoned this may be the threshold of the body's fat burning before it may turn to using proteins - which we absolutely didn't want.

I was also interested in the Type 1 aspect. This was going to involve people with Type 1. Some questions I have include why do only 10% of the general population of T1's in the UK achieve 'target' HBA1c levels. Are these levels even 'good'? What is defined as 'good'?

Below are a few questions/ reactions I have been asked by people when I explained what I was considering doing. I believe these are also the initial knee jerk thoughts & reactions of the vast majority of the population. Please remember the **PRIMARY OBJECTIVE OF THIS WAS TO EXPLORE THE SAFETY & PHYSIOLOGICAL EFFECTS OF KETOSIS IN PEOPLE WITH AND WITHOUT DIABETES.**

'OMG isn't that how people die?' 'Won't you pass out?' 'What about your blood sugar, you will faint!'

We need to start with the basic understanding that our liver can make all the necessary glucose, our bodies need. Secondly, instead of glucose there is another fuel source available to use - ketones. There is a period required call 'fat adaptation' in order for people to do this safely.

**On the note of children – I have 3 young girls (5-11). They know I am doing 100 miles with no 'sugar', but I have been conscious not to talk about a 5 day fast to them.*

*** The art and science of low carbohydrate performance, by Jeff Volek & Stephen Phinney*

How do you train for something like this?

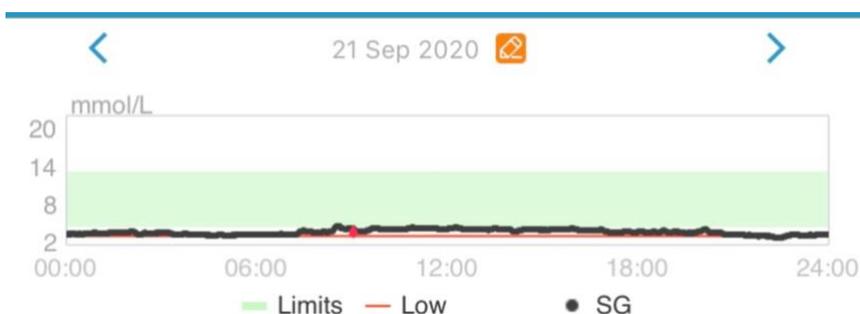
For at least 5yrs I have eaten 'low carb' real food and tend to avoid processed fake foods. However, I do have a tendency to occasionally eat what I like. Here starts the no booze VLC (very low carb.) way in order to prep properly, so in June I gave up alcohol. I have attended several 40th's, and my own birthday and passed on the booze & cake.

Well I guess the answer is none of us really knew the best or right way to train. We all ended up doing variations. For me, I had to get the mileage in, so this was whatever my day and family life allowed. I did a 3 day fast in February. I then did a 4 day fast in August this time getting up early in the morning & doing daily runs (8, 10, 14 & 8 miles respectively), monitoring ketones and glucose, and I bought some bathroom scales to see what was happening (I lost 2kg if you're interested). By the end of August my right Achilles was getting inflamed so I decided to stop running, and switched to 100 press ups and squats a day. I continued VLC, with no more extended fasts until the actual event.

Day 1-5



Day 1 was the hardest for me, we set off from Henley-On-Thames quite late and covered 24 miles. At one point passing through Reading I wondered how my legs would last the whole 100miles. I wasn't particularly hungry, and felt my energy was good. The mornings of day 2 & 3 I gave myself some acupuncture in my achilles as it was definitely sore, which seemed to do the trick. I stuck to mainly water for the 5 days, with some additional magnesium citrate and salts. If there was a nice coffee machine then I'd have espresso in the mornings after the ecal testing. By days 2 & 3 I was 87% fat burning, with my BMR stable. I'm looking forward to the data after it has been formally tested. My CGM trace was rather boring, as I am not diabetic it was exactly as id expected. I had several glucometers to test on to calibrate and make sure it was accurate, and I flat lined pretty much for the whole 5 days.



By days 3 & 4, my hips and achilles has started to ease, I was stretching lots and the pains I had from the initial 2 days seemed to have gone. Moral was excellent, and the morning of day 3 I got a message from my Dad ...“you’ve broken the back of it now”, which was great. I really felt like we had, and somehow it made another 54miles seem ok.



My sleep was poor throughout the whole 5 days. The hotel rooms were hot, some beds were hard, and my hips hurt so I couldn't get comfortable. On the morning of day 4 I get a text on the group from one of the supporting Drs...“is anyone experiencing insomnia related to ketosis or muscle pain...” I was almost relieved, I think a combination of sore hips, hot rooms and high ketones were hijacking my sleep. The poor sleep didn't however seem to impact my energy in the day as the mileage was not an issue for me. Day 4 I was hungry on and off, but not the kind of hunger I experience normally at home when I'm really ready for a meal. Sometimes at night when I was awake I'd notice I was hungry, but it wasn't a bothersome hunger like I have experienced when fasting before, which surprised me. By day 5 everyone was excited to finish. I calculated I had another 8.7miles to do before the 100, but due to the route today would probably end up doing more. It was the first wet and slightly chilly day but no one cared, I was so delighted to be finishing by midday. I thought it might be slightly tortuous waiting until 15.00hrs to eat again but I really wasn't that fussed. It was more out of principle I cracked open some pork scratchings and brazil nuts – random combo I know! We had a table at a Brazilian 'all you can eat meat house', which was the perfect way to end an epic 5 days. The journey home after the big re feed, not so epic.....

P.S Day 6. Minimal muscle soreness..... I mean hardly any, which is a lovely surprise. Day 7 & 8 2x 6mile runs.



My basic results:

Day	Weight (Kg)	Blood glucose mmol*	Ketones ▽	Lactate ▽
1	64.5	4.2	0.7	3.6
2	63.9	4.1	2.2	7.2
3	62.9	3.7	3.3	4.7
4	62.4	3.2	3.7	5.5
5	62.5	3.5	5.7	5.6
6	63.1	4.8	1.4	N/A

* Mean daily reading.

▽ Morning reading.

Learning points:

There has been much I have learnt and will share with you some things I am thinking about. Some of these are responses to knee jerk reactions I have read on social media

- 1.) Maybe ketosis was the baseline human metabolic state until c. 100+ yrs ago.
- 2.) Controlled fasting/ nutritional ketosis should not be confused with or misinterpreted as starvation/ deprivation. Context is vital here.
- 3.) 'Low' glucose is not relevant in isolation. I experienced asymptomatic low glucose the whole 5 days and felt great, not once did I experience any 'symptoms'. Ketones produced from fat metabolism provide an additional source of fuel for the brain.
- 4.) Confirmation that some glucose is essential to life but if we don't eat it, the body can make it, thus it is not an essential nutrient like fat and protein

To the team:

I have loved spending time with each and every one of you, and feel hugely lucky to have been part of this. You all brought something different to the project, and I feel privileged to have had the opportunity to get to know you all. I have also learnt a huge amount in the presence of such open and curious minds. We also had an amazing support crew who tracked us, kept us on track, and supplied us with water.

Thank you...

Lastly, I'd like to thank a number of people who have added so much knowledge and expertise to this project, and although they didn't partake, I include them as part of the wider 'team'. Their support, expertise and curious minds have enriched everyone's learning.

Dr Shaun Scott, Dr Campbell Murdoch, Dr Dan Maggs, Dr Agnes Ayton, Eric Smith, Dr Peter Foley

Now, I'm off to read 'Rebel Ideas: The power of diverse thinking'