**Supplemental material:**

**Fig. S1** Laboratory parameters throughout the race (excerpt)

Na+ = Sodium, K+ = Potassium, Ca++ = Calcium, Cl- = Chloride, cTCO2 = Total Carbon Dioxide, Agap = Anion Gap, AgapK = Anion Gap Potassium, BE(b) = Base excess blood

**Fig. S2** Meal plan, sensor glucose values, insulin dose, and medical notes for day five of the race

|  |  |  |  |
| --- | --- | --- | --- |
| **Saturday 16 June 2018** | | | |
| glucose values | *Race time – 81 hours* | | |
| mg/dl | **00.00 h** | meals + fluid | medical note |
|  |  |  | 10.000 IU pancreatic  enzymes |
|  | 15 |  |  |
|  |  |  |  |
| 116 | 30 | water |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **01.00** | 150ml cream + egg |  |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **02.00** | start break | sensor calibration |
|  | 10 | basal insulin 4.8 IU/24h |  |
|  | 15 | sleep |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **03.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
| 132 | 30 | wake-up call | 2 salt sticks |
|  |  | water | potassium supplement 8g |
|  | 45 | end break |  |
|  |  |  |  |
|  |  |  |  |
|  | **04.00** | 150ml cream + egg | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  | 40 | water |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
| 145 | **05.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
| 138 | 30 | 150ml cream + egg |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **06.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
| 129 | 30 | 150ml cream + egg |  |
|  |  | water |  |
|  | 45 | power nap |  |
|  |  |  |  |
|  |  |  |  |
| 180 | **07.00** |  | medical note |
|  | 5 | end nap |  |
| 183 | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **08.00** |  | medical note |
|  |  |  |  |
|  | 15 | 150ml cream + egg | 1 caffeine tablet |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
| 193 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **09.00** |  | medical note |
|  |  |  |  |
| 189 | 15 | 150ml cream + egg | 1 salt stick |
|  |  |  |  |
| 182 | 30 | Wasser |  |
|  |  |  |  |
|  | 45 |  |  |
|  | 59 | **summit** |  |
|  |  |  | ambient temp. 8.8°C |
|  | **10.00** |  | medical note |
|  |  |  |  |
| 162 | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  | 40 | 150ml cream + egg | magnesium supplement |
| 201 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **11.00** |  | medical note |
|  |  |  |  |
|  | 15 | 2 salt sticks | 1 caffeine tablet |
|  |  |  |  |
| 223 | 30 | water |  |
|  |  |  |  |
| 205 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
| 210 | **12.00** |  | medical note |
|  |  |  |  |
| 216 | 15 | 150ml cream + egg | 10.000 IU pancreatic enzymes |
|  |  |  |  |
| 215 | 30 |  |  |
|  |  |  |  |
| 194 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
| 198 | **13.00** |  | medical note |
|  |  |  |  |
| 201 | 15 |  |  |
|  | 20 | 150ml cream + egg |  |
| 202 | 30 |  |  |
|  |  |  |  |
| 182 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **14.00** | start break | medical note |
|  |  |  |  |
|  | 20 | basal insulin 7.2 IU/24h | 2 IU bolus insulin |
|  | 25 | sleep |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **15.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
| 279 | 50 |  | 1.5 IU bolus insulin |
|  |  |  |  |
|  | **16.00** |  | medical note |
|  |  |  | potassium supplement 8g |
|  | 15 |  | pantoprazol 40mg |
|  | 20 | wake-up | 2 salt sticks |
|  | 30 | 3 eggs |  |
|  | 40 | end break |  |
| 263 | 45 | basal insulin 14.1 IU/24h |  |
|  |  |  |  |
|  |  |  |  |
| 233 | **17.00** |  | medical note |
|  |  |  |  |
| 198 | 15 |  |  |
|  | 24 | 75 ml coke |  |
| 153 | 30 |  |  |
|  |  |  |  |
| 152 | 45 |  |  |
| 152 | 50 | 150ml cream + egg |  |
|  |  |  |  |
| 150 | **18.00** |  | medical note |
| 152 | 5 | water 300ml |  |
| 147 | 15 |  |  |
|  |  |  |  |
| 162 | 30 |  |  |
| 160 | 40 |  |  |
|  | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
| 156 | **19.00** | 150ml cream + egg | medical note |
|  |  |  | 10.000 IU pancreatic enzymes |
| 137 | 15 |  | 1 salt stick |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
| 130 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
| 134 | **20.00** |  | medical note |
|  |  |  |  |
| 141 | 15 |  |  |
|  | 20 | 60ml coke |  |
| 159 | 30 | 150ml cream + egg |  |
| 157 | 40 | water |  |
| 195 | 45 |  |  |
|  | 55 |  | potassium supplement 8g |
|  |  |  |  |
|  | **21.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  | 20 | 150ml cream + egg |  |
|  | 30 |  |  |
|  |  |  |  |
| 182 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **22.00** |  | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
| 165 | 45 |  |  |
|  |  |  |  |
|  |  |  |  |
|  | **23.00** | 150ml cream + egg | medical note |
|  |  |  |  |
|  | 15 |  |  |
|  |  |  |  |
|  | 30 |  |  |
|  |  |  |  |
|  | 45 |  |  |
|  | 50 | 150ml cream + egg | 10.000IU pancreatic enzymes |
|  |  |  |  |
| rtCGM glucose  (Eversense) | |  |  |
| iscCGM glucose  (FreeStyle Libre) | |  |  |
| capillary blood glucose (for sensor calibration)  (AccuChek Guide) |  |  |  |