Exercise performance and thermoregulatory responses of elite athletes exercising in the heat: outcomes of the Thermo Tokyo study

Running heading: Exercise performance and thermoregulatory responses of elite athletes exercising in the heat

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Supplementary Table 1: A fictive example of an individualized exercise protocol in the control and Tokyo condition. All athletes started at 100 W and after 3 min the initial workload was gradually adjusted (on the minute marks) to reach 70% of the athlete’s maximal HR. When a stable target HR was reached (i.e. 70% HRmax), the workload was kept equal for the remaining minutes of the 20 min warm-up. At the 20 min mark, the incremental phase started and the workload (in W) was increased every 3 minutes by 5% of the workload corresponding to 70% HRmax until volitional exhaustion. The personalised exercise protocol (i.e. changes in workload over time) obtained during the control condition was subsequently applied to the second exercise test in simulated Tokyo conditions. The maximal heart rate in this example is 200 bpm.

| Phase       | Minute | Control condition | Tokyo condition |
|-------------|--------|-------------------|-----------------|
|             | Heart rate (bpm) | Workload (W) | Heart rate (bpm) | Workload (W) |
| 20 min warm-up phase | 0      | 60                | 100             | 68             | 100             |
|              | 1      | 65                | 100             | 73             | 100             |
|              | 2      | 70                | 100             | 78             | 100             |
|              | 3      | 72                | 110             | 81             | 110             |
|              | 4      | 85                | 120             | 95             | 120             |
|              | 5      | 95                | 130             | 112            | 130             |
|              | 6      | 110               | 140             | 121            | 140             |
|              | 7      | 123               | 150             | 135            | 150             |
|              | 8      | 127               | 160             | 139            | 160             |
|              | 9      | 129               | 170             | 148            | 170             |
|              | 10     | 136               | 180             | 151            | 180             |
|              | 11     | 139               | 190             | 154            | 190             |
|              | 12     | 140               | 200             | 158            | 200             |
|              | 13     | 141               | 200             | 161            | 200             |
|              | 14     | 142               | 200             | 160            | 200             |
|              | 15     | 141               | 200             | 162            | 200             |
|              | 16     | 140               | 200             | 163            | 200             |
|              | 17     | 142               | 200             | 164            | 200             |
|              | 18     | 143               | 200             | 164            | 200             |
|              | 19     | 141               | 200             | 163            | 200             |
|              | 20     | 141               | 210             | 165            | 210             |
|              | 23     | 142               | 220             | 168            | 220             |
|              | 26     | 143               | 230             | 172            | 230             |
|              | 29     | 148               | 240             | 176            | 240             |
|              | 32     | 151               | 250             | 184            | 250             |
|              | 35     | 156               | 260             | 191            | 260             |
|              | 38     | 163               | 270             | 197            | 270             |
|              | 41     | 171               | 280             |                |                 |
|              | 44     | 178               | 290             |                |                 |
|              | 47     | 182               | 300             |                |                 |
|              | 50     | 187               | 310             |                |                 |
|              | 53     | 190               | 320             |                |                 |
|              | 56     | 193               | 330             |                |                 |
|              | 59     | 196               | 340             |                |                 |
| Cool-down   | 1      | 165               | 75              | 174            | 75              |
|              | 2      | 154               | 75              | 159            | 75              |
|              | 3      | 138               | 75              | 143            | 75              |