

## 15. Impact of illness and injury on fitness and CP/FTP

Some 2,5 month ago Hans ran the 15 km 7HillsRun in 59:34 and with an average power of 244 Watt (or 4,21 Watt/kg, which is actually a better parameter). We analyzed the results in a paper (see <http://hetgeheimvanhardlopen.nl/.../14.-Results-of-Stryd-data...>).

Since then Hans has had a bad winter with a number of illnesses (contracted from babysitting his grandchildren...) and an injury. As a result he has not trained for about 2 months and just resumed the training 2 weeks ago. How big was the impact of this break from training on his fitness and CP/FTP?

### Dutch Master Championships Indoor 3000 m

The answer is 7%, which we derived from the results of the Dutch Master Championships Indoor 3000 m, in which Hans participated on February 3<sup>rd</sup>, 2017. The results are presented in the table below and show that he ran with an average power of 255 Watt. Please note that the ECOR represents the Energy Cost of Running, defined as the specific power (in Watt/kg) divided by the speed (in m/s).

Results Dutch Master Championships Indoor 3000 m				
Finish Time 11:11.07				
Distance	Pace	Speed	Power	ECOR
km	min:sec/km	m/s	Watt	kJ/kg/km
1	03:42	4,50	261	1,00
2	03:48	4,39	249	0,98
3	03:41	4,52	254	0,97
Average	03:44	4,46	255	0,98



*Hans at the finish of the 3000 m race*

### How can we compare these results with the 7Hills Run?

In order to compare these results with the 7HillsRun, we need to correct for the power-time relationship. In our book (<http://thesecretofrunning.com/>) we have shown that the power is proportional to the endurance time to the power -0.07. This means that the 255 Watt during his race time of 11:11 is equivalent to only 227 Watt during 1 hour (or 59:34).

So, we have to conclude that his fitness level and CP/FTP have gone down by 7% as a result of the break from training. To be frank, we have to admit that during the break his body weight increased by 1 kg or almost 2%. As the performance in running is determined primarily by the specific power (so Watt/kg), this explains part of the difference.

So, Hans has some work to do in the coming weeks/months, both to shed the additional kg and to get back in shape!

*Hans van Dijk and Ron van Megen*

[www.thesecretofrunning.com](http://www.thesecretofrunning.com)

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