

# A new study shows that human ageing is absolutely precise, when disease is eliminated, and accompanied by a disintegration of metabolic efficiency: profound implications.

Monday 28 March, 2022

A new [study](#) shows that the decline in human performance with age at 5000 m, an athletic event requiring high  $VO_2$  max (oxygen use), is remarkably precise, and unavoidable, and related to entropy, even at an individual level. Women and men show an identical age-related decline, up to ~100 years old. The precision of the decline shows the limitations for therapy of aging. Mortality incidence for COVID19 shows a similar relationship. We propose that initial  $VO_2$  max has a critical role in COVID sensitivity because of the direct relationship of disease severity with oxygen use, and the parallel decline in aging: mitochondria are targeted by viruses. The highest human recorded  $VO_2$  max is 96, but is only 13 in nursing home residents, where metabolic capacity is massively reduced.

Humans, with a long active life, may therefore have already optimised ageing and [metabolism](#) compared to short-lived animals which are used in studies of anti-ageing drugs.

As the results involve the very best age-related performances of humanity (by definition healthy), and there is absolute mathematical precision in the decline, there is no room for improvement, so drugs to slow ageing (apart from offsetting specific ageing-related diseases) will remain a mirage despite \$billions invested by certain biotechs. The results of the study are compatible with decline due to entropy, just a general disintegration, with different diseases developing by chance, heredity or the environment in a disintegrating body.

Funding could be better spent on ensuring a humane and dignified exit at the end of life when metabolism breaks down completely. Nevertheless, exercise (such as 5000M parkruns) has been previously [shown](#) to extend active life by ~7 years.

Spedding M, Marvaud R, Marck A, Delarochelambert Q, Toussaint JF. Aging,  $VO_2$  max, entropy, and COVID-19. Indian J Pharmacol 2022;54:58-62

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[Michael Spedding](#) is a very highly-cited pharmacologist, drug-discoverer, who has also run 122,000 kms, and kept with 15% of world best [5000m](#) for 48 years.

## [Spedding Research Solutions](#)

is a small biotech developing drugs for Amyotrophic Lateral Sclerosis and long-COVID, but not for ageing.

## Related Sectors:

Coronavirus (COVID-19) :: Health  
:: Medical & Pharmaceutical ::  
Sport ::

## Related Keywords:

Aging :: COVID ::  $vo_2$ max ::  
Sport :: Decline :: Entropy ::  
Disintegration :: Parkrun ::  
Metabolism :: Exercise ::

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