

## Endurance running and the evolution of *Homo*

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### Abstract

Striding bipedalism is a key derived behaviour of hominids that possibly originated soon after the divergence of the chimpanzee and human lineages.

Although bipedal gaits include walking and running, running is generally considered to have played no major role in human evolution because humans, like apes, are poor sprinters compared to most quadrupeds.

Here we assess how well humans perform at sustained long-distance running, and review the physiological and anatomical bases of endurance running capabilities in humans and other mammals.

Judged by several criteria, humans perform remarkably well at endurance running, thanks to a diverse array of features, many of which leave traces in the skeleton.

The fossil evidence of these features suggests that endurance running is a derived capability of the genus *Homo*, originating about 2 million years ago, and may have been instrumental in the evolution of the human body form.

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