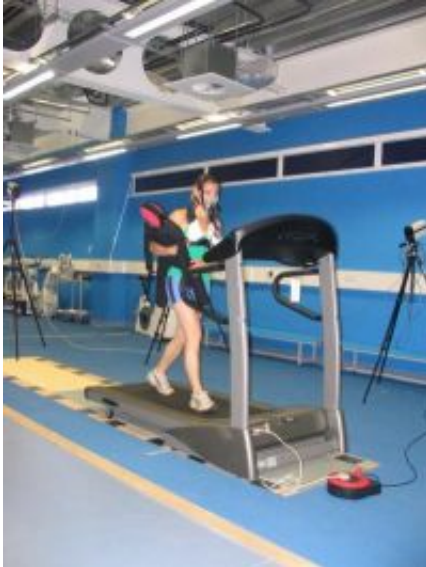


Early parents didn't stand for weighty kids

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A volunteer carrying baby mannequin on the hip has her energy consumption measured. Credit: University of Manchester

Scientists investigating the reasons why early humans – the so-called hominins – began walking upright say it's unlikely that the need to carry children was a factor, as has previously been suggested.

Carrying babies that could no longer use their feet to cling to their parents in the way that young apes can has long been thought to be at least one explanation as to why humans became bipedal.

But University of Manchester researchers investigating the energy involved in carrying a child say the physical expense to the mother does

not support the idea that walking upright was an evolutionary response to child transportation.

“Walking upright is one of the major characteristics that separates humans from their primate relatives,” said Dr Jo Watson, who carried out the research in the University’s Faculty of Life Sciences.

“Scientists have long hypothesised as to the reasons why hominins became bipedal in a relatively short space of time but the truth is we still don’t know for sure.

“One of the more popular explanations is that walking upright freed our forelimbs allowing us to carry objects, including children; apes have no need to carry their young as they are able to grip using both hands and feet.

“Our study focused on the amount of energy required to carry 10kg loads, including a mannequin child. Importantly, the distribution of the weight varied in each instance.”

The team monitored the oxygen consumption of seven women, all healthy individuals under the age of 30, carrying either a symmetric load, in the form of a weighted vest or a 5kg dumbbell in each hand, or an asymmetric load, which was a single 10kg weight carried in one hand or a mannequin infant on one hip.

“Carrying an awkward asymmetric load, such as the infant on one side of the body, is the most energetically expensive way of transporting the weight,” said Dr Watson, whose research is published in the *Journal of Human Evolution*.

“Unless infant carrying resulted in significant benefits elsewhere, the high cost of carrying an asymmetrical weight suggests that infant

carrying was unlikely to have been the evolutionary driving force behind bipedalism.”

The study, carried out with colleagues at the Universities of Sheffield and Salford and funded by the Natural Environment Research Council (NERC), is part of a larger project, run by Dr Bill Sellers at The University of Manchester, which uses computer simulations to understand evolutionary processes, particularly the way in which we and other animals move.

Future plans are to extend this work to assess the energy cost of carrying in great apes. Computer models of early hominins carrying loads will also be built to try and evaluate whether their body shape and posture – long arms and short legs – would have made them noticeably better or worse at carrying than present-day humans. The research team hopes this will help build up a picture of how humans evolved to walk on two legs.

Source: University of Manchester

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