

Anthropology Lecture Series

FUNCTIONAL ANATOMY OF UPRIGHT, BIPEDAL WALKING IN PRIMATES

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The hominin fossil record preserves a suite of anatomical traits long-associated with human-like bipedal locomotion and orthograde posture. For example, the 7 million-year-old Sahelanthropus is reconstructed as a biped solely based on an anteriorly positioned foramen magnum and the morphology 4 million-year-old Ardipithecus pelvis may have made upright walking more efficient by moving the body's center of mass. As a whole, the purported links between hominin anatomy and how it facilitates upright, bipedal locomotion lack experimental validation. Here I present a number of studies relying on in vivo locomotor data to explain the variations in skeletal form we see throughout our lineage and its implications for the evolution of our unique mode of locomotion. I begin by investigating the locomotor role of an anterior foramen magnum and how it may be adapted to upright, bipedal walking in primates. Next, I use comparative methods to explore how orthograde posture influences vertebral form. Finally, I discuss how these skeletal adaptations we see in the fossil record may holistically influence the energetics of terrestrial, bipedal locomotion.



**Wednesday,
February 21st**

3:30PM

Tate 111

For ADA accommodations, please contact muasanthropology@missouri.edu.

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