



Movie 1. A representative subject displays the pronounced difference in center-of-mass running kinematics resulting from a change in gravity. In the first half of the video, the runner experiences normal gravity ( $9.8 \text{ m/s}^2$ ), and exhibits large vertical excursion of the center of mass during the flight phase. In the second half of the video, the runner experiences simulated lunar gravity (approximately one-sixth of Earth-normal), and the center-of-mass excursions in flight are comparatively shallow. In both cases, the treadmill speed is 2 m/s. The video is slowed by a factor of four. Consent to publish this video was obtained from the subject depicted.

Table S1. This file contains data used in the manuscript. Effective gravitational acceleration ( $g$ ), mean vertical takeoff velocity ( $V$ ), the standard error in the vertical takeoff velocity ( $V \text{ Err}$ ), number of takeoffs measured during a trial ( $N \text{ Takeoffs}$ ), mean ballistic height ( $H$ ), standard error in ballistic height ( $H \text{ Err}$ ), number of data points used for calculating mean ballistic height ( $N \text{ H}$ ), and mean, standard error, and number of samples for stride frequency ( $f$ ,  $f \text{ Err}$ , and  $N \text{ f}$ , respectively), are listed for all 50 trials. Leg length ( $l$ ) is also reported for each subject. Data are grouped according to subject (ID code in first column) and, within each subject, listed in the order of measurement.

[Click here to Download Table S1](#)