Base of gait (BOG), or the mediolateral distance between the foot and body’s line of gravity, during running is reduced relative to walking. Considered a strategy to reduce hip muscle loads, it has been suggested that reductions in BOG resulting in the foot crossing the line of gravity (crossover) may increase risk for iliotibial band syndrome and tibial stress injuries. However, little is known about factors that may influence BOG during running.

**Purpose**: To determine if BOG differs across running speeds and between limbs and genders. Secondary objectives were to describe the relationships between BOG and foot inclination angle at initial contact (foot angle), stride length, and cadence.

**Methods**: Whole body kinematics were recorded for 19 healthy collegiate cross country runners (males, n=7; females, n=12) during treadmill running at 2.91, 3.20, 3.63, 4.12, and 4.85 m/s. BOG was calculated as the mediolateral distance between a heel marker and the body’s center of mass, with negative values indicating crossover. BOG across speeds and between limbs and gender compared using ANOVAs. Pearson correlations were used to explore associations between BOG and foot angle, stride length, and cadence.

**Results**: There was no significant interaction between limb and speed (p=0.96) and no main effect of limb (p=0.37). A significant speed effect was observed (p<0.001), with BOG decreasing as speed increased (2.91 m/s, 1.2 ± 1.5 cm; 4.85 m/s, -0.5 ± 1.9 cm). Males displayed smaller BOG than females at all speeds (p=0.01; mean difference across speeds, 1.6 ± 0.6cm). BOG and foot angle were only significantly correlated at 3.20 m/s (p=0.04). BOG had a positive correlation with stride length across all speeds (r=0.53-0.79; p≤0.02), and a negative correlation with cadence across all speeds (r=0.52-0.78; p≤0.03).

**Conclusion**: BOG during running systematically decreases with increasing speed. Relative to females, healthy male distance runners have a smaller BOG and crossed over at speeds faster than 2.91 m/s. Females did not crossover at any speed. As such, both speed and gender should be considered when evaluating the appropriateness of an individual's BOG. Additionally, stride length and cadence were moderately associated with BOG at a given speed, suggesting that changes in BOG may likely occur if stride length or cadence is altered.