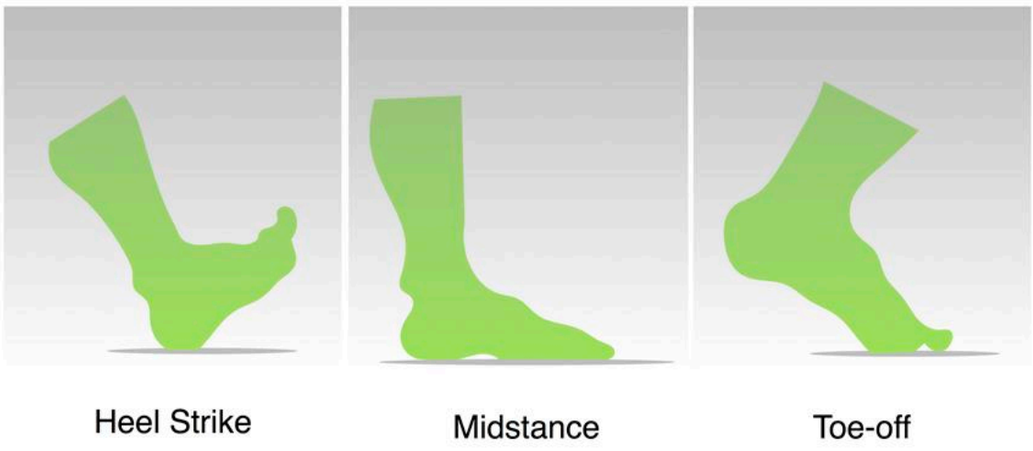
Gait Mechanics and Slip & Falls

Measuring the available friction on a floor's surface is the only accurate way of knowing the slip resistance potential of that floor. The available friction on a floor's surface and a person's gait cycle are directly related to the potential for a slip and fall accident. There are two "peaks" in a person's gait cycle when the amount of required friction is at its highest. Peak one is the end of load phase, or a 'Heel Strike,' when full body weight transfers to the supporting foot. Peak two is the beginning of the 'Toe-off' push phase.



The end of load phase, or 'Heel Strike' is when the heel of the supporting foot contacts the floor. If sufficient friction cannot be developed to decelerate the heel to zero forward velocity, then a heel slip occurs and a person could fall backwards. The 'Toe-off' push phase is that brief moment in the swing phase when only one foot is in contact with the floor's surface. Higher friction is required at this point, otherwise a slip occurs and a person could fall forward.

Unless you are measuring, there is no way of knowing if there is sufficient friction on your floor's surface for these two "peaks." Safe Space Ingenuity is a floor safety consulting firm, and we use the latest technology in tribometry to measure the available friction on a floor's surface. According to Liberty Mutual Research Institute, the incidence of a slip and fall accident can be reduced by 21% with every 0.1 increase in measured COF or available friction. As the data suggests, if you don't measure you have no way of knowing the condition of your floor's surface or your risk for a slip and fall accident.

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