Is There a "Natural" Way to Run?

Humans have been walking and running on two legs for millions of years. However, shoes are a recent invention, meaning that our modern foot anatomy evolved in the context of barefoot walking and running. Whereas most shod runners today strike the ground with their heels first, recent research has found that modern barefoot runners most commonly use a forefoot strike in order to avoid generating a large and rapid impact force peak. This finding suggests that habitually barefoot ancestors may have run in a similar way. Here, we present new data on habitually barefoot people showing that various factors, including speed, running history, and substrate properties, influence foot strike patterns. We also discuss our experimental research on footprint formation suggesting that the interaction between the mechanics of the substrate, and the biomechanics of the foot, appears to be complex. The evolutionary history of our anatomy can help us understand clinically-relevant aspects of human biomechanics.