

The Effects of Auditory, Tactile, and Visual Cues On Lower Extremity Running Mechanics.

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This study examined the effects of cueing (or different types of sensory prompts) on knee kinematics while running to evaluate strategies for facilitating optimal kinematics in novice and recreational runners. Dartfish Express was used to analyze knee flexion angles at initial contact and midstance of 31 healthy, female and male runners during treadmill running at constant, self-selected speeds. We hypothesized that specific auditory, tactile, and visual cueing techniques would optimize running kinematics. Using a one-way ANOVA, a visual cue to run with minimal vertical excursion produced significant increases in knee angles at initial contact. Additionally, both the visual and auditory (“run softly”) cues significantly decreased knee flexion angles at midstance. The varying mechanical changes following different types of cues suggest that cues should be specific to the type of change desired in runners’ knee kinematics.