EFFECTS OF AGE AND GENDER ON GAIT

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Gait is a basic and well-trained human behavior that includes both static (e.g., height, body shape) and dynamic (e.g., stride, arm swing, walking posture) components . Gait cycle, begins with the first touch of the heel on the floor and ends when the same heel touch on the floor by the second time . The gait patterns are affected by the characteristics of the individual gender, age, weight , heigh and the walking speed.

Gender can affect the skeletal and muscle morphology. Also, the walking patterns between male and femaleindividuals can be different. Three-dimensional motion analysis is commonly used to determine pathologies for treatment planning,evaluation, as well as outcomes of research in human gait.Understanding gender differences during gait has immediate impact to the fields of medicine and clinical gait analysis. Many injuries and pathologies have a strong sex component. For example, non-contact anterior cruciate ligament tears occur more frequently in females than males. While this injury is a consequence of running and cutting motions, underlying musculoskeletal differences between the sexes have been implicated as a cause of the injurious motions. Because these are inherent structural differences, each will influence normal gait as well.

Age is known to have an effect on gait, with young people walking faster, with longer steps and a higher step frequency compared with elderly people. Changes in gait pattern as a function of age may also be interpreted as a result of changes in motor control as a function of age.

Previous studies have demonstrated different effect of age on some gait characteristics between males and females.