Gait Analysis

Recently, Gait Analysis validated the identity of a man who was convicted of the crime he committed and sentenced to death. Such unique terminologies in news can be asked in the IAS Exam, particularly in the Prelims stage. Aspirants must keep note of such new terms and look for their meaning.

In this article, we will discuss what is Gait Test and its significance.

What is Gait Analysis?

- Gait Analysis is the systematic study of animal locomotion, more especially the study of human motion, employing observers' eyes and brains, enhanced by technology for monitoring body motions, body mechanics and the activity of the muscles.

- Gait Analysis is defined as a manner of walking or moving on foot. It is a technique in podiatry medical care and the treatment of the foot, which is used to evaluate and diagnose conditions that affect walking and posture.

- It is used to examine and treat people who have diseases that limit their ability to walk. It is also extensively used in sports biomechanics to assist athletes in running more effectively and to discover posture-related or movement-related issues in injured individuals.

- The research includes quantification (the introduction and analysis of measurable gait characteristics) as well as interpretation or deriving different inferences about the animal (health, age, size, weight, speed, etc.) from its gait pattern.

What is the Significance of Gait Analysis?

- The analysis can help experts zero in on the source of an injury or pain that determines the way in which an individual stands or walks.

- Forensic scientists are increasingly using gait analysis tools to identify suspects in criminal cases.

- It can also be used for therapy by physiotherapists and in sports, training to help athletes perform better and more comfortably.

- With CCTV video becoming an important tool in combating and preventing a variety of crimes, particularly in cities, gait analysis has begun to be utilised as a technique for focusing on or removing persons from a list of suspects.

- Pathological gait may reflect compensatory mechanisms for underlying illnesses or be the cause of symptoms in and of itself. Patients with cerebral palsy and stroke are frequently found in gait laboratories. The study of gait enables for the creation of diagnostics and intervention techniques, as well as future developments in rehabilitation engineering.

Factors and Parameters used in Gait Analysis

The various parameters taken into account for the gait analysis are given below:

Step length

- Cadence

- Dynamic base

- Foot angle

- Hip angle

- Progression line

- Speed

- Stride length

- Squat performance

Many variables influence or modify gait analysis, and variations in the typical gait pattern might be temporary or permanent. Following are the factors that influence the gait test:

- **Pathological:** for example trauma, neurological diseases, musculoskeletal anomalies, psychiatric disorders

- **Psychological**: personality type, emotions

- Intrinsic: sex, weight, height, age, etc.

- **Physical**: such as weight, height, physique

- **Physiological**: anthropometric characteristics, i.e., measurements and proportions of body

- **Extrinsic**: such as terrain, footwear, clothing, cargo

This is all about the Gait Analysis. For more updates about the other government exams, candidates can turn to BYJU'S and get the latest exam updates, study material and preparation tips.