

Normal Human Gait

Normal human gait repeats a basic sequence of limb motions that serve to progress the body along a desired path while maintaining weight bearing stability, conserving energy, and absorbing the shock of floor impact.

A gait cycle is defined as the time from heel strike to the next ipsilateral heel strike. The most common method of dividing the gait cycle is into stance and swing. Stance is the entire period the limb is in contact with the ground and swing begins when the foot comes off the ground. To facilitate observational analysis, the gait cycle is further divided into eight phases. These phases are:

Initial Contact (IC): The moment when the foot contacts the ground.

Loading Response (LR): Weight is rapidly transferred onto the outstretched limb, the first period of double-limb support.

Mid Stance (MSt): The body progresses over a single, stable limb.

Terminal Stance (TSt): Progression over the stance limb continues. The body moves ahead of the limb and weight is transferred onto the forefoot.

Pre-Swing (PSw): A rapid unloading of the limb occurs as weight is transferred to the contralateral limb, the second period of double limb support.

Initial Swing (ISw): The thigh begins to advance as the foot comes up off the floor.

Mid Swing (MSw): The thigh continues to advance as the knee begins to extend; the foot clears the ground.

Terminal Swing (TSw): The knee extend: the limb prepares to contact for ground for Initial Contact.