

The gait cycle in relation to plantar corns

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THE GAIT CYCLE IN RELATION TO PLANTAR CORNS Health Sciences and Medicine & ... 5 March THE GAIT CYCLE

Corns are one of the most painful health conditions. They refer to small areas of hard or thickened skin that are found on the foot sole which are extremely painful Coughlin, M. 2000, 787. This paper explains the association between plantar (under the foot) corns and pain thus explaining the phases of antalgic gait. It then concludes by briefly discussing the effects that the antalgic gait has on the stance and swing stages of the gait cycle. The Gait cycle refers to the biomechanics of walking. This paper thus discusses the antalgic gait, which is the abnormal style of walking due to a plantar corn. The normal gait cycle clearly reveals the various functions, joints and muscles that go into a normal walking movement.

Karl, B. 2013 (online article) asserts that corns and other plantar calluses cause limitations in walking, inability to carry out daily normal routines as well as an increased risk of falling to those affected. Corns are mainly resolved through a surgical removal that cuts them off. The feet being an organ of movement has to always be on the move with a normal person making 3 000-5 000 steps per day and an active person making 10 000 steps according to Biomechanics of walking 2012. Barney, S. 1995 in an online article asserts that gait simply refers to the style or manner of walking as opposed the actual process of walking. The gait cycle, is the time interval involved for one foot to make a step, it starts when the foot leaves the floor and ends when the same foot returns to the floor.

The gait cycle encompasses two stages, the stance and swing stages

Barney, S. 1995. The stance stage happens when the foot is on the floor and entails about sixty percent of the walking process. The swing stage happens

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when one foot is mid-air and the other foot is on the floor. The corn on metatarso-phalangeal joint affects the normal gait pattern resulting to an antalgic or abnormal gait. This leads to adjustments which Whittle, M. 1996 refers to as compensations or consequences. This is because the foot with the corn tends to avert spending the required time interval on the floor.

Corns thus tend to affect the length of the strides made by the foot affected as it tries to avoid putting the needed pressure for a normal stride.

The presence of a plantar corn shortens the stance stage that covers about sixty percent of the walking process to about 30%. The stance phase is often broken down to several stages that include heel strike, early flatfoot, late flatfoot, heel rise, and toe off. The heel strike stage is marked the moment the foot first touches the ground followed by the early flatfoot stage that is marked when the whole foot touches the ground. Early flatfoot serves to absorb the shock of the body as it is propelled forward. Once the center of gravity of the body passes over, the foot is on the late flatfoot stage, which ends when the foot lifts from the ground. The heel rise stage is marked by the foot starts to leave the ground and is followed by the toe off stage that begins when the toes lift off the ground marking the start of the swing phase.

During an antalgic gait, the time interval covered by the foot on the ground is cut short. The stages most affected are the early and late flatfoot stages of the stance phase. The foot tries to avoid spending the required time on the ground. The early flatfoot stage may not fully be marked as the whole foot hardly makes contact with the ground. The presence of an antalgic gait is signaled by limping and shortened strides made by the affected foot.

In conclusion, walking is one of the most crucial locomotion processes for the
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human body, Booth, J. 1997, 427. Thus, corns destabilize a very crucial process of the human body. They mainly affect the stance stage of the gait cycle, which is the time the foot is on the floor resulting to an antalgic or abnormal gait.

References

Barney S. and Spivack (Ed.), 1995. Evaluation and Management of Gait Disorders, New York: Marcel Dekker Inc.

Booth J, McInnes A, 1997: The aetiology and management of plantar callus formation. J Wound Care, 6: 427-430.

Coughlin M. J. 2000: Common causes of pain in the forefoot in adults. J Bone Joint Surgery Br, 82-B: 781-790.

Whittle Michael, 1996. Gait Analysis: An Introduction, Second Edition. Oxford: Butterworth-Heinemann.

Hello, can i have a little less detail on the subject of corns and more on the phases of antalgic gait in connection to the pain, i. e. foot flat, mid stance, which you have mentioned, heel off and the lack of propulsion in toe off.

Many Thanks