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Prosthetics and orthotics — Vocabulary —

Part 1: Normal gait

Prothèses et orthèses — Vocabulaire —

Partie 1: Démarche normale

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Foreword

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ISO 29783-1 was prepared by Technical Committee ISO/TC 168, *Prosthetics and orthotics*.

ISO 29783 consists of the following parts, under the general title *Prosthetics and orthotics — Vocabulary*:

— *Part 1: Normal gait*

— *Part 2: Prosthetic gait*

— *Part 3: Pathological gait*

Prosthetics and orthotics — Vocabulary —

Part 1:
Normal gait

1 Scope

This part of ISO 29783 establishes a vocabulary for the description of normal gait.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
body load
loading
force exerted by the foot upon the ground at any time during the stance phase due to gravity and the forward, sideways and vertical accelerations of the body mass

2.2
cadence
number of steps taken per unit of time in steps per second

2.3
double support
those two parts of the gait cycle when both limbs are in contact with the ground

NOTE The first of these (approximately 0 % to 10 % of the gait cycle) commences after initial ground contact (and ends as the contralateral limb commences initial swing) the second (approximately 50 % to 60 % of the gait cycle) commences at the beginning of pre-swing (and ends as the limb commences initial swing).

2.4
gait cycle
the sequence of actions of a lower limb usually taken from initial contact of the foot until the next initial contact of the same foot when walking or running

2.5
ground reaction force
reaction by the ground to the force exerted by the foot at any time during the stance phase

2.6
pelvic obliquity
alignment of the pelvis (moves upwards or downwards) in the coronal plane

2.7
pelvic rotation
alignment of the pelvis (moves forwards or backwards) in the transverse plane

2.8
pelvic tilt
alignment of the pelvis (anterior or posterior movement) in the sagittal plane

2.9
single support
that part of the gait cycle when only the limb under consideration is in contact with the ground

2.10
stance phase
that part of the gait cycle during which the limb is in contact with the ground

NOTE The stance phase is further described by reference to five sub-phases (see 2.10.1 to 2.10.5).

2.10.1
initial contact
sub-phase of the stance phase which commences at the instant of initial foot contact and ends when knee flexion and ankle plantarflexion commence

2.10.2
loading response
sub-phase of the stance phase which commences after initial contact and continues until full foot contact occurs

2.10.3
mid-stance
sub-phase of the stance phase which commences when the contralateral limb commences its swing phase and ends when the heel leaves the ground

2.10.4
terminal stance
sub-phase of the stance phase which commences when the heel leaves the ground and ends at initial contact of the contralateral limb

2.10.5
pre-swing
final sub-phase of the stance phase which commences with initial contact by the contralateral foot and ends when the foot loses contact with the ground

2.11
step length
distance (measured in the line of progression) between the point of initial contact of a foot and the point of initial contact of the opposite foot in successive steps in metres

2.12
stride length
distance between the point of initial contact of the same foot in successive gait cycles in metres

2.13
swing phase
that part of the gait cycle during which the limb is not in contact with the ground

NOTE The swing phase is further described by reference to three sub-phases (see 2.13.1 to 2.13.3).

2.13.1
initial swing
sub-phase of the swing phase which commences as the foot loses contact with the ground and ends when the limb achieves maximum knee flexion