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Prosthetics and orthotics — Limb deficiencies —

Part 6:

Description of the condition of the orthotic recipient, clinical objectives, and functional and biomechanical requirements of orthosis

Prothèses et orthèses — Malformations des membres —

Partie 6: Description de la condition de l'utilisateur d'orthèse, objectifs cliniques, et exigences fonctionnelles et biomécaniques de l'orthèse

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 8548-6 was prepared by Technical Committee ISO/TC 168, *Prosthetics and Orthotics*.

ISO 8548 consists of the following parts, under the general title *Prosthetics and orthotics — Limb deficiencies*:

- *Part 1: Method of describing limb deficiencies present at birth*
- *Part 2: Method of describing lower limb amputation stumps*
- *Part 3: Method of describing upper limb amputation stumps*
- *Part 4: Description of causal conditions leading to amputation*
- *Part 5: Method of describing the clinical condition of the patient who has had an amputation¹⁾*
- *Part 6: Method of describing the person to be treated with an orthosis, the clinical objectives of treatment, and the functional requirements of the orthosis*

1) In preparation

Introduction

The orthotic treatment of a person depends not only on the causes and underlying conditions that the orthosis is being prescribed for, but also other clinical conditions and attributes of the person. The various members of the clinic teams in different countries develop their own nomenclature to record this information. Hence there is a need for an international system to allow comparisons of clinical practice.

The system is designed to meet the needs of the members of the clinic team in assessing the person and presenting and evaluating treatment. Such a system will also allow this information to be recorded in a way which can easily be incorporated into reports and used for analysis. It would also be of value to epidemiologists and government health officials.

ISO 8548-6 defines the minimum information to be described.

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Prosthetics and orthotics — Limb deficiencies —

Part 6:

Description of the condition of the orthotic recipient, clinical objectives, and functional and biomechanical requirements of orthosis

1 Scope

This part of ISO 8548 establishes a method of describing the person to be treated with an orthosis, the clinical objectives of treatment and the functional requirements of the orthosis.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 8548. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 8548 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 8549-1:1989, *Prosthetics and Orthotics — Vocabulary — Part 1: General terms for external limb prostheses and external orthoses*.
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ISO 8549-3:1989, *Prosthetics and Orthotics — Vocabulary — Part 3: Terms relating to external orthoses and wearers of these orthoses*.

ICD-10:1992, *International Statistical Classification of Diseases and Related Health Problems, World Health Organization, Geneva*

3 Terms and definitions

For the purposes of this part of ISO 8548, the following terms and definitions given in ISO 8549-1 and ISO 8549-3 and the following apply.

3.1

The alignment of a skeletal segment

the spatial relationship between the ends of the segment

NOTE The alignment of a skeletal segment is determined by its integrity and/or shape.

3.2

The alignment of a joint

the spatial relationship between the skeletal segments which comprise the joint

NOTE The alignment of a joint is determined by the integrity and shape of the skeletal segments which comprise it and the action of associated muscular and ligamentous/capsular tissues. These factors also govern the type and range of motion at the joint.

3.3

The alignment of the trunk (or any part thereof)

the spatial relationship between the relevant two end vertebrae

NOTE The alignment of the trunk is determined by the alignment of the intervening skeletal segments and joints.

3.4

Instability

the tendency of a skeletal segment or joint, whose integrity is impaired, to change to an abnormal alignment when subjected to muscle forces and/or external loading. Such a skeletal segment or joint is said to be unstable

3.5

Deformity

an abnormal alignment of a skeletal segment or joint

3.6

Preventable deformity

one in which the application of an external force system will prevent an unstable skeletal segment or joint moving into an abnormal alignment

3.7

Reducible deformity

one in which the application of an external force system will improve the alignment of a skeletal segment or joint

3.8

Irreducible (fixed) deformity

one in which the application of an external force system has no effect on the abnormal alignment of a skeletal segment or joint

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4 Description of the person to be treated with an orthosis

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4.1 General

Describe the person as given in 4.2 to 4.6.

4.2 Personal factors

State the person's age, gender, height and weight.

Describe where relevant, the person's social and physical environment and vocational and recreational activities.

Describe any significant and relevant medical history.

4.3 Clinical condition to be treated with an orthosis

State the diagnosis and the ICD codes, whether the condition is constant or changing, the involved body segment(s) or joint(s) and the presence of pain or tenderness.

Describe any abnormalities of:

- the alignment, shape and dimensions (eg length and circumference) of the involved body segment(s);
- the alignment, stability, range(s) of motion and neuromuscular control of the involved joint(s);
- superficial and deep sensation.

4.4 Other clinical conditions

Disorders of the following may influence orthotic treatment:

- a) the cardiovascular system;
- b) the respiratory system;
- c) the musculoskeletal system;
- d) the neurological system;
- e) endocrine system;
- f) the special senses;
- g) the nutritional status;
- h) the cognitive state;
- i) the mental and psychological status;
- j) other systems.

State if there is a disorder of any of these which influences the orthotic treatment, and note any other current treatment.

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4.5 Motivation and perceived needs

NOTE The motivation and perceived needs of the person have a marked effect upon their rehabilitation. They are interdependent and are influenced by the person's clinical condition, personality and physical, social and cultural environment. Motivation is difficult to describe but both poorly motivated and highly motivated individuals can be recognised by clinicians.

State the clinical impression of the person's motivation and their perceived needs.

4.6 Functional abilities

NOTE The clinical condition and resulting impairments will affect the person's functional abilities and participation in aspects of daily life.

Any functional limitations should be identified as follows:

4.6.1 Bed Mobility

If the person is unable to transfer from bed independently state whether they are:

- immobile; or
- able to change their lying position independently.

4.6.2 Transferring

State if the person is unable to transfer from sitting to standing independently.

State if the person is unable to transfer from standing to sitting independently.