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Health informatics - Categorical structure for terminological systems of surgical procedures (ISO 1828:2012)

I.S. EN ISO 1828:2012

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Health informatics - Categorial structure for terminological
systems of surgical procedures (ISO 1828:2012)

Informatique de santé - Structure catégorielle pour les
systèmes terminologiques des interventions chirurgicales
(ISO 1828:2012)

Medizinische Informatik - Kategoriale Struktur für
Klassifikationen und Kodierungssysteme für chirurgische
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Contents

Page

Foreword.....	3
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Foreword

This document (EN ISO 1828:2012) has been prepared by Technical Committee CEN/TC 251 "Health informatics", the secretariat of which is held by NEN, in collaboration with Technical Committee ISO/TC 215 "Health informatics".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2013, and conflicting national standards shall be withdrawn at the latest by March 2013.

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**Health informatics — Categorical
structure for terminological systems of
surgical procedures**

*Informatique de santé — Structure catégorielle pour les systèmes
terminologiques des interventions chirurgicales*



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Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Description of categorial structure for terminological systems of surgical procedures	5
4.1 General	5
4.2 Goal of the terminological system for which the categorial structure is set	5
4.3 Categories	5
4.4 List of the representations of relations	5
5 Domain constraint requirements	5
6 UML (Unified Modeling Language) Diagram	6
Annex A (informative) Definitions from ISO 17115:2007, 2.7, Terminological systems	8
Annex B (informative) Categorial structures of the most recent and/or more widespread terminological systems (in use or in progress) of surgical procedures	9
Annex C (informative) Excerpt of EN 15521:2007 giving definitions of the entities of the category human anatomy (see 3.8.2)	11
Bibliography	14

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 2.

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.

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ISO 1828 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 251, *Health informatics*, in collaboration with ISO Technical Committee ISO/TC 215, *Health informatics*, in accordance with the agreement on technical cooperation between ISO and CEN (Vienna Agreement).

The preparation of this International Standard brought to light an urgent need to review the family of terminological standards ISO 704, ISO 1087, ISO 17115 and EN 12264 in order to clarify the relations between concept, generic concept, specific concept, object, class, instance, designation and formal representation. This also applies to the forthcoming edition of ISO/TR 24156 (all parts).

Introduction

The driving factor behind this International Standard is the fact that terminological systems for surgical procedures are used for a wide range of purposes. Some of the main applications include, for instance, being incorporated as an integral part of a computerized health care record for use in discharge summary information, for clinical research, peer review, quality assurance, reimbursement, workload assessment, resource management, utilization comparisons, public health management and epidemiological surveys. Unlike diagnoses, for which the International Classification of Diseases (ICD) is an accepted *de facto* standard, there are at least as many coding systems for surgical procedures as there are developed countries and, very often, several such coding systems for different usages or for different surgical disciplines in each country. On the other hand, most of the countries are unable to satisfy such applications for they lack such terminological systems or use terminological systems from other countries. This hampers the exchange of meaningful health information, for instance for international statistical comparisons.

Five types of health care terminological systems are defined in ISO 17115: classifications, coding scheme, coding systems, reference terminologies and clinical terminologies.

Defining a surgical procedure is considered difficult because there are neither specific criteria to define it nor specific criteria to define the limit between what a surgical procedure is and what it is not.

Within this International Standard, terminological systems of surgical procedures are defined in the following way:

- In this International Standard, a terminological system of surgical procedures is considered to have been defined as such by its owner/developer in order to cover surgical procedures. The owner/developer decides what can be considered a surgical procedure and then defines the content of the terminological system.

Terminological systems for surgical procedures group the different types of terminological systems including terminological systems defined by ISO 17115:2007, 2.7: classifications, coding scheme, coding systems, reference terminology and clinical terminology.

ENV 1828:1995 started by identifying the categories of terms in existing procedure classifications within and outside Europe and also the natural language used in surgical reports. It defined the categorial structure which contains the definition of a set of categories of terms and the internal relations that combine them into a conceptual system.

EN 1828:2002 has been widely tested and/or applied in national and European projects (The Nordic NCSP, the French CCAM, for the revision of UK OPCS and by three German-speaking countries (Austria, Germany and Switzerland) as well as outside Europe in Australia (ACHI and ICHI) and Canada (CCI).

EN 1828:2002 was based on the assessment of different existing health care terminological systems. They are made available in the bibliography as the material on which the standard was based. The main terminological systems of surgical procedures developed since that edition of the standard have been added as well.

WHO-FIC (World Health Organization Family of International Classification) are currently implementing a project called ICHI (International Classification of Health Intervention) which is intended to be based on a concept system that is conformant to this International Standard. SNOMED CT IHTSDO has planned to align the surgical procedures within SNOMED CT with this International Standard.

International standardization efforts by CEN and ISO related to electronic health records and semantic interoperability have resulted in a number of categorial structures which are a step towards supporting health care terminological systems with a full concept system or ontology that in turn will support multiple uses and safe communication. In the present categorial structure standard, several of the definitions of basic terms related to categorial structures have been updated to comply with the most recent edition of ISO 17115. This is the first revision of a categorial structure standard developed by CEN or ISO since 1995, and one of several that are to be reviewed in the next five years. These revisions are being processed in collaboration between CEN/TC 251 and ISO/TC 215.

Health informatics — Categorial structure for terminological systems of surgical procedures

1 Scope

This International Standard specifies the minimal characteristics of a categorial structure for terminological systems of surgical procedures and the minimal domain constraints to support interoperability, comparability and the exchange of meaningful information on surgical procedures, independently of the language, insofar as the significant differences are specified by the system.

NOTE 1 Further characteristics or more detailed value sets can be used for specific purposes.

NOTE 2 Categorial structures support interoperability by providing common frameworks within which to develop terminological systems that can be related to each other, and to analyse the properties of different terminological systems in order to derive relationships between them.

This International Standard is applicable to terminological systems of surgical procedures in all surgical disciplines. It covers only the terminology part, as defined in ISO 1087-1:2000, of the terminological systems of surgical procedures.

It is intended to be used by:

- organizations involved with the development or maintenance of terminological systems for surgical procedures, namely for multipurpose terminological systems on a national or international level;
- organizations developing and maintaining software tools that allow natural clinical language expressions analysis, generation and mapping to the main existing terminological systems of surgical procedures.

This International Standard is intended to be used as an integrated part of computer-based applications and for electronic health care records. It is of limited value for manual use.

This International Standard is not suitable for, nor intended for use by, individual clinicians or hospital administrators. It is not the purpose of this International Standard to standardize the end user terminological system or to conflict with the concept systems embedded in national practice and languages.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12264, *Health informatics — Categorial structures for systems of concepts*

3 Terms and definitions

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

3.1

categorial structure

minimal set of domain constraints for representing health care terminological systems entities in a precise subject field to achieve a precise goal

NOTE Adapted from ISO 17115.

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