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Hälso- och sjukvårdsinformatik – Kategoristruktur för klassificering av kirurgiska procedurer (ISO 1828:2012)

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

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Denna standard ersätter SS-EN 1828, utgåva 1.

The European Standard EN ISO 1828:2012 has the status of a Swedish Standard. This document contains the official version of EN ISO 1828:2012.

This standard supersedes the Swedish Standard SS-EN 1828, edition 1.

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EUROPEAN STANDARD
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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 Prozeduren (ISO 1828:2012)

This European Standard was approved by CEN on 14 September 2012.

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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of an identical text or by endorsement, at the latest by March 2013, and conflicting national standards shall be withdrawn at the latest by March 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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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.

3.2
domain constraint
rule prescribing the set of representations of relations that are valid to specialize a category in a certain domain

NOTE Adapted from ISO 17115.

3.3
category
type of entity shared by all the individual instances in existence in the present, past and future

EXAMPLE The category “liver” is instantiated by this liver and all individual livers in existence in the present, past and future.

NOTE 1 Categories may be more or less general. Where one category is subsumed by another, the *is_a* relation is asserted to obtain a hierarchy between the more specific or subsumed category and the more general or subsuming category.

NOTE 2 Each entity instantiates some category.

NOTE 3 Category is a synonym of generic concept as it is in ISO 17115.

3.4
representation of relation
semantic link
formal relation between two or more categories derived from corresponding relations between instances of the respective categories

EXAMPLE hasLocation (with inverse islocationOf):isCauseOf (with inverse hasCause).

NOTE 1 This includes all relations except Is_a, has_part relation.

NOTE 2 The definition is authorized by a domain constraint.

NOTE 3 Adapted from ISO 17115.

3.5
health care terminological system
set of designations within the domain of health care with, when appropriate, any associated rules, relationships and definitions.

EXAMPLE Annex A details the five types of terminological systems given in ISO 17115:2007, 2.7.

NOTE Adapted from ISO 1087-1:2000 which defines terminology as a set of designations belonging to one language used in a subject field for a special purpose.

3.6
subject field
domain
field of special knowledge

[ISO 1087-1:2000, definition 3.1.2]

NOTE The borderlines of a subject field are defined from a purpose-related point of view.

3.7
goal
statement on situations and applications for which the categorial structure is intended and its limits of use

3.8 Categories of health care entities for terminological systems of surgical procedures

3.8.1
surgical deed
deed which can be done by a medical practitioner to the patient’s body during the surgical procedure

EXAMPLES Excising, destroying, dividing, puncturing.

NOTE 1 For the purposes of this International Standard, the surgical deed shall be described without reference to any specific human anatomy (3.8.2) or interventional equipment (3.8.4).

NOTE 2 Surgical deed terms are presented by the neutral inflection of a verb as a present participle (e.g. removing).

NOTE 3 Surgical deed categories do not include reason and outcome (e.g revascularization).

NOTE 4 A surgical deed is part of a surgical procedure; major surgery is composed of a series of surgical deeds. A surgical deed in case of minor surgery can be considered itself as the essential component of a surgical procedure.

3.8.2
human anatomy
biological science that concerns the discovery, analysis and representation of the structural organization of the human body

[EN 15521:2007]

NOTE The categories of human anatomy are given in Annex C. The definition and names of categories of human anatomy should conform to EN 15521:2007. They are listed in Annex B.

3.8.3
lesion
abnormal morphologic structure

EXAMPLES Cyst, foreign body, exostosis, polyp.

NOTE 1 A lesion shall be described without reference to **human anatomy** (4.8.2) or any specific diagnosis such as embolism, hypertension, priapism, myocarditis.

NOTE 2 A lesion may be the result of inheritance, disease, trauma, or previous surgical procedures.

NOTE 3 The Oxford English Dictionary provides another similar definition: region in an organ or tissue which has suffered damage through injury or disease.

3.8.4
interventional equipment
medical device for use in surgical procedures

EXAMPLES

— surgical prostheses (hip implant, pacemaker, prosthetic valve)

— surgical instruments (drill, needle, scissors, clamp)

— fixation devices (nail, screw, plate, rod, pin)

— tubular devices (catheter, drain, tube)

— connecting material (suture, clip)

— imaging devices (endoscope, microscope, X-ray, ultrasound equipment)

— surgical agents (electricity, liquid nitrogen, laser)

— substance (air, ionizing ray)

— chemical (drug, anaesthetic agents)

— animal organs and tissues

NOTE Most terms concerning interventional equipment can be found in the application field of the definitions of Council Directive 93/42/EEC concerning medical devices or in the International Classification of Clinical Services (ICCS) section “Medical and surgical supplies”.

3.9 List of authorized representations of relations