



SLOVENSKI STANDARD
oSIST prEN ISO 5365:2023
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Zobozdravstvo - Sistem označevanja razvojne faze zob (ISO/DIS 5365:2023)

Dentistry - Designation system for tooth development stages (ISO/DIS 5365:2023)

Zahnheilkunde - Bezeichnungssystem für die Entwicklungsstadien der Zähne (ISO/DIS 5365:2023)

Médecine bucco-dentaire - Système de désignation des stades de développement dentaire (ISO/DIS 5365:2023)

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Dentistry — Designation system for tooth developmental stages

ICS: 11.060.01

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO-specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, SC 3, Terminology.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Many age estimation methods using various body systems exist; however, the human dentition is considered one of the most accurate biological indicators of chronological age. Because tooth development is predominantly regulated by genetics, environmental factors have only a minimal effect on the development process.

Dental age assessment is typically based on data correlating the degree of tooth development to the chronological age of a population. However, there are different scoring systems, with different numbers of stages and nomenclature of stages. Furthermore, different methods use the same scoring system and have different time intervals. Therefore, the number of dental developmental stages can vary greatly depending on the method used. In addition, some methods only offer diagrams, without descriptors, of tooth stages, which may lead to ambiguity in stage assignment and could affect the accuracy of the result of a technique.

Therefore, creating a standardized terminology, with diagrams, for tooth developmental stages is vital to improve the consistency of these score attributions, add objectivity to the assessment, and improve the accuracy of the results.

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Dentistry — Designation system for tooth developmental stages

1 Scope

This document provides a method for designating the coding and nomenclature for tooth developmental stages using a single letter and number to facilitate data entry and support interoperability.

The first letter represents the part of the tooth (Crown, Root, and Apex), and the number represents the stages of development of the tooth part

2 Normative references

ISO 1942, *Dentistry — Vocabulary*

ISO 3950, *Dentistry — Designation system for teeth and areas of the oral cavity*

ISO 20888, *Dentistry – terminology for forensic oro-dental data*

3 Terms and definitions

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

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 Crown developmental stages

(See [Annex A](#))

Note 1 to entry These stages are assessed on dental images.

3.1.1

stage C0

stage at which no appearance is observed

Note 1 to entry: No visible evidence of development

3.1.2

stage C1

stage at which bud is present but no evidence of mineralisation is observed

3.1.3

stage C2

stage at which developed enamel is minute

Note 1 to entry: This is analogous to the stage at which mineralisation has commenced

Note 2 to entry: The incisal edge can be seen as a straight line (incomplete outline) in anterior teeth.

Note 3 to entry: In posterior teeth, isolated cusp tips can be seen as small isolated triangles with gaps in between.

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3.1.4

stage C3 (anterior teeth)

stage at which the incisal edge with added mesial and distal angles can be seen

Note 1 to entry: This is analogous to the stage at which the coalescence of cusps begins.

Note 2 to entry: The amount of enamel visible is minute (thin band).

stage C3 (posterior teeth) stage at which the cusps are connected but with a gap in the middle (ring-shaped)

Note 3 to entry: This is analogous to the stage at which the coalescence of cusps begins.

Note 4 to entry: The amount of enamel visible is minute (thin band).

3.1.5

stage C4

stage at which **the amount of enamel visible is thick and continuous, the dentine** formation is not visible in the radiograph yet, and the outline of the incisal edge or the occlusal surface is complete

Note 1 to entry: This is analogous to the stage at which the cusp outline is completed.

3.1.6

stage C5

stage at which part of the dentine can be seen as a thin band in the radiograph, and the pulp is absent

Note 1 to entry: This is analogous to the stage at which the crown is half-developed

3.1.7

stage C6

stage at which a thick layer of dentine can be seen, the pulp chamber can be seen, the pulp roof outline is not yet defined (straight line), and the crown edges are divergent

Note 1 to entry: This is analogous to the stage at which the crown is three-quarters developed.

3.1.8

stage C7

stage at which the outline of the whole crown is complete, the pulp roof well defined (closed umbrella shape in anterior teeth and open umbrella shape in molars with the dentine convexity in the middle, and the pulp horns transparent), and the edges of the cervical crown are thin and convergent

Note 1 to entry: This is analogous to the stage at which crown development is complete.

3.2 Root developmental stages

(See [Annex A](#))

3.2.1

stage R1

stage at which the outline of the whole crown is complete and divergent spicules of the root outline extending from the cervical crown edges have just begun to form

Note 1 to entry: This is analogous to the stage at which the root begins formation.

3.2.2

stage R2

stage at which part of the root equivalent up to half the height of the crown (from highest cusp/incisal edge to cementoenamel junction) is developed, the root edges are divergent (dentine walls get thinner towards the root end), making the pulp wider thus giving the illusion that the apical root walls are going outwards)

Note 1 to entry: This is analogous to the stage at which the root is one-quarter developed.