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Dentistry — Dental elevators

Médecine bucco-dentaire — Élévateurs dentaires

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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This document was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 4, *Dental instruments*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 55, *Dentistry*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition cancels and replaces ISO 15087-1, ISO 15087-2, ISO 15087-3, ISO 15087-4, ISO 15087-5, ISO 15087-6, which have been technically revised.

The main changes compared to the previous editions are as follows:

— ISO 15087-1, ISO 15087-2, ISO 15087-3, ISO 15087-4, ISO 15087-5 and ISO 15087-6 have been merged into one document;

— the document has been harmonized with ISO 4865-1;

— a requirement for reprocessing has been added to 5.7;

— ISO 15087-1:1999, Annexes A, B, C and D have been deleted.

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.

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Dentistry — Dental elevators

1 Scope

This document specifies general requirements and test methods for metallic dental elevators. In addition, it specifies dimensional requirements for specific types of dental elevators such as Warwick James elevators, Cryer elevators, Coupland elevators, Bein elevators and Flohr elevators.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

ISO 1942, *Dentistry — Vocabulary*

ISO 2592, *Petroleum and related products — Determination of flash and fire points — Cleveland open cup method*

ISO 3104, *Petroleum products — Transparent and opaque liquids — Determination of kinematic viscosity and calculation of dynamic viscosity*

ISO 4865-1:2023, *Dentistry — General requirements of hand instruments — Part 1: Non-hinged hand instruments*

ISO 7153-1, *Surgical instruments — Materials — Part 1: Metals*

ISO 21850-1, *Dentistry — Materials for dental instruments — Part 1: Stainless steel*

ISO 17664-1, *Processing of health care products — Information to be provided by the medical device manufacturer for the processing of medical devices — Part 1: Critical and semi-critical medical devices*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942 and the following apply.

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

— IEC Electropedia: available at https://www.electropedia.org/

— ISO Online browsing platform: available at https://www.iso.org/obp

3.1
dental elevator
hand instrument designed for loosening or extracting teeth or tooth roots by displacement or lever action

[SOURCE: ISO 1942:2020, 3.4.3.4]

3.1.1
Warwick James elevator
particular *dental elevator* (3.1) having straight, left or right working part used to loosen a tooth from the periodontal ligament and ease extraction

Note 1 to entry: See Figure 1 and Figure 2.

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3.1.2
Cryer elevator
particular *dental elevator* (3.1) having left or right working part used to loosen the tooth from the periodontal ligament and ease extraction

Note 1 to entry: See Figure 3.

3.1.3
Coupland elevator
chisel
particular *dental elevator* (3.1) having straight working part which is used to split multi-rooted teeth and is inserted between the bone and tooth roots and rotated to elevate them out of the sockets

Note 1 to entry: See Figure 4.

3.1.4
Bein elevator
particular *dental elevator* (3.1) having straight working part used as a lever during the extraction of a tooth or retained roots, inserted into the socket and the tooth root

Note 1 to entry: See Figure 5.

3.1.5
Flohr elevator
particular *dental elevator* (3.1) having left or right working part used as a lever during the extraction of a tooth or retained roots, inserted into the socket and the tooth root

Note 1 to entry: See Figure 6.

3.2
working part
working part of dental elevator
blade part that forms the tip of the dental elevator and used to apply forces to the tooth, bone or both

4 General requirements

4.1 General

There are five specific designs of dental elevators described in this document. Other forms of dental elevators are also possible.

4.2 Material

4.2.1 Material for the working part

The material for the working part of dental elevators shall be made of martensitic stainless steel of grade a, g, c or f, in accordance with ISO 7153-1, or other materials specified in ISO 21850-1. Materials shall meet the requirements of this document.

4.2.2 Material for the handle

The material for the handle of dental elevators shall be in accordance with ISO 4865-1:2023, 4.1.

4.3 Vickers hardness

Vickers hardness of the working part shall be from 480 HV 1 to 720 HV 1, when tested in accordance with ISO 4865-1:2023, 5.4.

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