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Health informatics — Ophthalmic examination device data

Part 1: General examination devices

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National foreword

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Foreword

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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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Introduction

Opthalmic devices are used in hospitals and clinics to conduct examinations for patients. The primary devices used in these opthalmic examinations provide measurement of refraction, corneal curvature, intraocular pressure, lens power and visual acuity. Almost all patients who consult for a diagnosis in ophthalmology undergo these examinations. Most ophthalmic hospitals and clinics use devices in these examinations to provide the needed measurements. Since many different vendors supply the devices to perform these measurements, the interoperability of examination results is important. In addition, standard procedures for mutually communicating these measurements are required between the ophthalmic examination devices and the Ophthalmic Information System (OIS).

These examinations are indispensable not only for ophthalmic medical care but also for prescriptions for spectacles and contact lenses. Additionally, intraocular pressure measurement is important for other ophthalmic procedures such as glaucoma assessment.

However, due to the differing data formats provided by these ophthalmic examination devices and the lack of interoperability, integration of this information is difficult and potentially error prone. Integration of each device's information into an OIS or hospital information system (HIS) therefore requires significant individual effort for each manufacturer's device.

This document specifies the content and format for ophthalmic examination device measurements, identifying that information that may be included in examination reports, as well as how it should be formatted when communicated to an OIS, HIS or other similar system.

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Health informatics — Ophthalmic examination device data —

Part 1: General examination devices

1 Scope

This document specifies the measurement data output formats for devices used in general ophthalmic examiniations, including the following modalities:

— Refractometer (REF) Refraction

— Keratometer (KM) Corneal curvature

— Tonometer (TM) Intraocular pressure

— Lensmeter (LM) Spectacle lens power

— Phoroptor (PHOR) Visual acuity

This document only addresses text-based device reporting of ophthalmic examination device data (OEDD). Images generated as needed during an ophthalmic examination are outside the scope of this document.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

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

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

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

3.1
refractometer
device that measures the refractive state of the eye

Note 1 to entry: Measuring the refractive state of the eye is necessary to determine the refractive power of a correction lens to restore normal vision.

Note 2 to entry: Measuring devices can provide both analog or digital readouts.

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