Meditsiiniseadmete valmistamisel kasutatavad loomsed koed ja nende tuletised. Osa 1: Riski analüüs ja juhtimine

Medical devices utilizing animal tissues and their derivatives - Part 1: Application of risk management

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 22442-1:2008 sisaldab Euroopa standardi EN ISO 22442-1:2007 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 22442-1:2008 consists of the English text of the European standard EN ISO 22442-1:2007.
Standard on kinnitatud Eesti Standardikeskuse 28.01.2008 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.	This standard is ratified with the order of Estonian Centre for Standardisation dated 28.01.2008 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.
Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.12.2007.	Date of Availability of the European standard text 12.12.2007.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.

ICS 11.100.20

Võtmesõnad: analysis, animal products, animals, applications, definition, definitions, derivatives, fabrics, impurities, medical products, medical sciences, medicine, methods, pathogenic bacteria, production, risk, risk analysis, tissue

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 22442-1

December 2007

ICS 11.100.20

Supersedes EN 12442-1:2000

English Version

Medical devices utilizing animal tissues and their derivatives - Part 1: Application of risk management (ISO 22442-1:2007)

Dispositifs médicaux utilisant des tissus animaux et leurs dérivés - Partie 1: Application de la gestion des risques (ISO 22442-1:2007)

Tierische Gewebe und deren Derivate, die zur Herstellung von Medizinprodukten eingesetzt werden - Teil 1: Anwendung des Risikomanagements (ISO 22442-1:2007)

This European Standard was approved by CEN on 14 December 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Ref. No. EN ISO 22442-1:2007: E

Foreword

This document (EN ISO 22442-1:2007) has been prepared by Technical Committee ISO/TC 194 "Biological evaluation of medical devices" in collaboration with Technical Committee CEN/TC 316 “Medical devices utilizing tissues” the secretariat of which is held by NBN.

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 June 2008, and conflicting national standards shall be withdrawn at the latest by June 2008.

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.

This document supersedes EN 12442-1:2000.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EC Directive(s).

This European Standard has been developed for medical devices regulated by the Medical Device Directive 93/42/EC as amended by 2003/32/EC (see Annex ZA). By analogy, it could be applied for active implantable medical devices regulated by the Active Implantable Medical Device Directive 90/385/EC.

For relationship with EC Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 22442-1:2007 has been approved by CEN as a EN ISO 22442-1:2007 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 93/42/EEC as amended by Commission Directive 2003/32/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 93/42/EEC, concerning medical devices, as amended by Commission Directive 2003/32/EC in relation to detailed specifications regarding requirements for medical devices utilizing tissues of animal origin.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in table ZA confers, within the limits of the scope of this International Standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA — Correspondence between this European Standard and Directive 93/42/EEC as amended by Commission Directive 2003/32/EC

Clause(s)/subclause(s) of this International Standard	Essential requirements (ERs) of Directive 93/42/EEC as amended by Commission Directive 2003/32/EC	Qualifying remarks/Notes
4.1, 4.2, 4.3, 4.4, 4.5, 4.6, Annex C	Annex I, 7.1, 7.2, 8.1, 8.2	
Annexes C and D	Annex of Commission Directive 2003/32/EC	Annexes C and D are dedicated to TSE risk, but clauses 4.1, 4.2, 4.3, 4.4 are also relevant

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

Contents

Page

Introduction

Certain medical devices utilize materials of animal origin.

Animal tissues and their derivatives are used in the design and manufacture of medical devices to provide performance characteristics that have been chosen for advantages over non-animal based materials. The range and quantities of materials of animal origin in medical devices vary. These materials can comprise a major part of the device (e.g. bovine/porcine heart valves, bone substitutes for use in dental or orthopaedic applications, haemostatic devices), can be a product coating or impregnation (e.g. collagen, gelatine, heparin), or can be used in the device manufacturing process (e.g. tallow derivatives such as oleates and stearates, foetal calf serum, enzymes, culture media).

ISO 14971 is a general standard which specifies a process for a manufacturer by identifying hazards and hazardous situations associated with medical devices, including *in vitro* medical devices, to estimate and evaluate the risks associated with those hazards, to control these risks and to monitor the effectiveness of the control throughout the life cycle. This part of ISO 22442 provides additional requirements and guidance for the evaluation of medical devices manufactured utilizing animal tissues or derivatives which are non-viable or rendered non-viable.

This part of ISO 22442 is intended to cover medical devices including active implantable medical devices such as implantable infusion pumps.

This part of ISO 22442 does not apply to *in vitro* diagnostic devices.

This part of ISO 22442 can only be used in combination with ISO 14971 and is not a “stand-alone” Standard.

NOTE To show compliance with this part of ISO 22442, its specified requirements should be fulfilled. The guidance given in the Notes and informative annexes is not normative and is not provided as a checklist for auditors.

Medical devices utilizing animal tissues and their derivatives —

Part 1:
Application of risk management

1 Scope

This part of ISO 22442 applies to medical devices other than *in vitro* diagnostic medical devices manufactured utilizing materials of animal origin, which are non-viable or have been rendered non-viable. It specifies, in conjunction with ISO 14971, a procedure to identify the hazards and hazardous situations associated with such devices, to estimate and evaluate the resulting risks, to control these risks, and to monitor the effectiveness of that control. Furthermore, it outlines the decision process for the residual risk acceptability, taking into account the balance of residual risk, as defined in ISO 14971, and expected medical benefit as compared to available alternatives. This part of ISO 22442 is intended to provide requirements and guidance on risk management related to the hazards typical of medical devices manufactured utilizing animal tissues or derivatives such as:

a) contamination by bacteria, moulds or yeasts;

b) contamination by viruses;

c) contamination by agents causing Transmissible Spongiform Encephalopathies (TSE);

d) material responsible for undesired pyrogenic, immunological or toxicological reactions.

For parasites and other unclassified pathogenic entities, similar principles can apply.

This part of ISO 22442 does not stipulate levels of acceptability which, because they are determined by a multiplicity of factors, cannot be set down in such an International Standard except for some particular derivatives mentioned in Annex C. Annex C stipulates levels of TSE risk acceptability for tallow derivatives, animal charcoal, milk and milk derivatives, wool derivatives and amino acids.

This part of ISO 22442 does not specify a quality management system for the control of all stages of production of medical devices.

This part of ISO 22442 does not cover the utilization of human tissues in medical devices.

NOTE 1 It is not a requirement of this part of ISO 22442 to have a full quality management system during manufacture. However, attention is drawn to International Standards for quality management systems (see ISO 13485) that control all stages of production or reprocessing of medical devices.

NOTE 2 For guidance on the application of this part of ISO 22442 see Annex A.

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.

ISO 10993-1, *Biological evaluation of medical devices — Part 1: Evaluation and testing within a risk management system*

ISO 14971:2007, *Medical devices — Application of risk management to medical devices*

ISO 22442-2:2007, *Medical devices utilizing animal tissues and their derivatives — Part 2: Control on sourcing, collection and handling*

ISO 22442-3:2007, *Medical devices utilizing animal tissues and their derivatives — Part 3: Validation of the elimination and/or inactivation of viruses and transmissible spongiform encephalopathy (TSE) agents*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14971 and the following apply.

3.1
animal
any vertebrate or invertebrate [including amphibian, arthropod (e.g. crustacean), bird, coral, fish, reptile, mollusc and mammal] excluding humans (*Homo sapiens*)

3.2
cell
smallest organized unit of any living form which is capable of independent existence and of replacement of its own substance in a suitable environment

3.3
derivative
substance obtained from an animal material by a manufacturing process

EXAMPLE hyaluronic acid, collagen, gelatine, monoclonal antibodies, chitosan, albumin.

3.4
elimination
removal
process by which the number of transmissible agents is reduced

NOTE 1 The effectiveness of the process for the elimination of viruses and TSE agents should be expressed mathematically in terms of a reduction factor (see C.2 and Annex F of ISO 22442-3:2007).

NOTE 2 Elimination aims to prevent infection or pathogenic reaction caused by transmissible agents.

3.5
inactivation
process by which the ability to cause infection or pathogenic reaction by a transmissible agent is reduced

NOTE 1 The effectiveness of the process for inactivation of viruses and TSE agents should be expressed mathematically in terms of a reduction factor (see Annex F of ISO 22442-3:2007).

NOTE 2 Inactivation aims to prevent infection by, and replication of, transmissible agents.

