Use of International Standard ISO 10993-1, "Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process"

Guidance for Industry and Food and Drug Administration Staff

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This document supersedes "Use of International Standard ISO 10993-1, "Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process"" dated June 16, 2016.

For questions about this document, contact the Office of Product Evaluation and Quality (OPEQ)/Clinical and Scientific Policy Staff at CDRH.Biocomp@fda.hhs.gov or (301)-796-5701 or CBER's Office of Communication, Outreach and Development (OCOD) at 1-800-835-4709, 240-402-8010 or ocod@fda.hhs.gov.

U.S. Department of Health and Human Services
Food and Drug Administration
Center for Devices and Radiological Health
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Preface

Public Comment

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Contains Nonbinding Recommendations

Use of International Standard ISO 10993-1, "Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk management process"

Guidance for Industry and Food and Drug Administration Staff

This guidance represents the current thinking of the Food and Drug Administration (FDA or Agency) on this topic. It does not establish any rights for any person and is not binding on FDA or the public. You can use an alternative approach if it satisfies the requirements of the applicable statutes and regulations. To discuss an alternative approach, contact the FDA staff or Office responsible for this guidance as listed on the title page.

I. Introduction

FDA has developed this guidance document to assist industry in preparing Premarket Applications (PMAs), Humanitarian Device Exceptions (HDEs), Investigational Device Exemption (IDE) Applications, Premarket Notifications (510(k)s), and De Novo requests for medical devices that come into direct contact or indirect contact with the human body[1] in order to determine the potential for an unacceptable adverse biological response resulting from contact of the component materials of the device with the body. The purpose of this guidance is to provide further clarification and updated information on the use of International Standard ISO 10993-1, "Biological evaluation of medical devices - Part 1: Evaluation and testing within a risk

[1] For the purposes of this document, the term "human body" refers to either patient tissues or the clinical practitioner. For example, masks or gloves intended for protective purposes by clinical practitioners should be assessed for biocompatibility. Similarly, medical devices such as implants or skin electrodes also should be assessed for biocompatibility.

management process" to support applications to FDA. This guidance replaces Office of Device Evaluation (ODE) Blue Book Memorandum #G95-1 (1995), entitled "Use of International Standard ISO-10993, 'Biological Evaluation of Medical Devices - Part 1: Evaluation and Testing.'" This guidance document also incorporates several new considerations, including the use of risk-based approaches to determine if biocompatibility testing is needed, chemical assessment recommendations, and recommendations for biocompatibility test article preparation for devices with submicron or nanotechnology components and for devices made from *in situ* polymerizing and/or absorbable materials, which were not previously discussed in G95-1.

When assessing new devices, the sponsor should specifically state if the device does not have any direct or indirect tissue contact,[2] and no further biocompatibility information would be needed.

When assessing device modifications, the sponsor should specifically state if the modification does not result in a change to any direct or indirect tissue-contacting components, and no further biocompatibility information would typically be needed. However, if the change could affect other parts of the device with direct or indirect contact that were not changed, a biocompatibility evaluation should be conducted to assess the potential impact of the change. For example, if a new non-contact internal component is added, but it requires the application of heat in order to join to another component that has patient contact, the patient-contacting component may be impacted by the application of heat such that biocompatibility could be impacted, and should be assessed.

For the current edition of the FDA-recognized consensus standard(s) referenced in this document, see the FDA Recognized Consensus Standards Database.[3]

Throughout this guidance document, the terms "we," "us," and "our" refer to FDA staff. "You" and "your" refers to the sponsor.

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[2] For non-contact devices, there is no direct or indirect contact with the body (e.g., stand alone software), so it would be sufficient for the biocompatibility evaluation to confirm that there are no direct or indirect tissue contacting components, and no further biocompatibility information is needed. However, for devices with transient contact, assessment of biocompatibility risk should be conducted to determine if testing is needed.
[3] Available at https://www.accessdata fda.gov/scripts/cdrh/cfdocs/cfStandards/search.cfm.

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