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Practice for blood irradiation dosimetry

Pratique de la dosimétrie pour l'irradiation du sang



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Explanatory Material

This international standard is part of the project between ISO and ASTM International to develop and maintain a group of ISO/ASTM dosimetry standards for radiation processing. In accordance with ISO/TC 85 N 1248, Maintenance Procedures for ISO/ASTM Radiation Processing Dosimetry Standards, a joint meeting of ISO/TC 85 WG3 Dosimetry for Radiation Processing and ASTM Committee E61 was held in New Orleans, Louisiana, on January 16-28 to review standards being considered for withdrawal, revision/amendment, or confirmation. Although ISO/ASTM 51939, published in 2005, had been reapproved in 2013, it was decided that this standard should be revised to bring it in line with the new format adopted for the ISO/ASTM standards. A review was conducted to determine if, in addition to the format changes, technical changes would be required. From this review it was decided that major changes should be made to the standard and that it should be revised as a major revision.

The new standard covers the irradiation of blood or blood components in self-contained blood irradiators using photons. The previous version also covered the use of teletherapy equipment and electron beams. The standard provides recommendations for properly implementing dosimetry in blood irradiation. The practice describes a means of achieving compliance with the requirements of ISO/ASTM Practice 52628 for dosimetry performed for blood irradiation and is intended to be read in conjunction with ISO/ASTM 52628.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75% of the member bodies casting a vote.

ASTM International is one of the world's largest voluntary standards development organizations with global participation from affected stakeholders. ASTM technical committees follow rigorous due process balloting procedures.

A project between ISO and ASTM International has been formed to develop and maintain a group of ISO/ASTM radiation processing dosimetry standards. Under this project, ASTM Committee E61, Radiation Processing, is responsible for the development and maintenance of these dosimetry standards with unrestricted participation and input from appropriate ISO member bodies.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. Neither ISO nor ASTM International shall be held responsible for identifying any or all such patent rights.

International Standard ISO/ASTM 51939 was developed by ASTM Committee E61, Radiation Processing, through Subcommittee E61.04, Specialty Application, and by Technical Committee ISO/TC 85, Nuclear energy, nuclear technologies and radiological protection.

This fourth edition cancels and replaces the third edition (ISO/ASTM 51939:05(2013)), which has been technically revised.