

AS/NZS 4173:2018
(Incorporating Amendment No. 1)

AS/NZS 4173:2018

Australian/New Zealand Standard™

**Safe use of lasers and intense light
sources in health care**



AS/NZS 4173:2018

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee HE-003, Medical Electrical Equipment. It was approved on behalf of the Council of Standards Australia on 22 March 2018 and by the New Zealand Standards Approval Board on 3 April 2018.

This Standard was published on 23 April 2018.

The following are represented on Committee HE-003:

Australasian College of Physical Scientists and Engineers in Medicine
Australasian Society for Ultrasound in Medicine (ASUM)
Australian and New Zealand College of Anaesthetists
Australian Chamber of Commerce and Industry
Australian Dental Association
Australian Institute of Radiography
Australian Radiation Protection and Nuclear Safety Agency
Australian Society of Anaesthetists
Canterbury District Health Board
Certification Body Australia (Certification Interests Australia)
College of Biomedical Engineering Engineers Australia
Department of Defence (Australian Government)
Engineers Australia
Health Industry Suppliers Association of New Zealand
Medical Technology Association of Australia
MidCentral District Board
New Zealand Institute of Healthcare Engineering
Royal Australian and New Zealand College of Radiologists
Therapeutic Goods Administration
Wairarapa District Health Board
WorkSafe New Zealand

Additional Interests:

ACORN (Australian College of Operating Room Nurses)

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com or Standards New Zealand web site at www.standards.govt.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 4173:2017.

AS/NZS 4173:2018
(Incorporating Amendment No. 1)

Australian/New Zealand Standard™

Safe use of lasers and intense light sources in health care

Originated as AS/NZS 4173:1994.
Previous edition 2004.
Third edition 2018.
Reissued incorporating Amendment No. 1 (March 2019).

COPYRIGHT

© Standards Australia Limited

© The Crown in right of New Zealand, administered by the New Zealand Standards Executive

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

ISBN 978 1 76072 045 2

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Sub-Committee HE-003-12, Lasers in Medical Procedures, under the responsibility of Committee HE-003, Medical Electrical Equipment, to supersede AS/NZS 4173:2004, *Guide to the safe use of lasers in health care*.

This Standard incorporates Amendment No. 1 (March 2019). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to specify requirements for the safe use of lasers and intense light sources, including intense pulsed light (IPL) for diagnostic, cosmetic and therapeutic uses in health care facilities (including hospitals, private medical facilities and dental practices) and the cosmetic industry. To this end, it identifies engineering and administrative control measures designed to avoid the most significant hazards, and includes in Appendices explanations of basic laser and light physics as they apply to this Standard, and radiation/tissue interactions. Protocols to be observed during certain specialist medical and dental procedures are also included.

This Standard was prepared in the knowledge that separate Standards exist for medical laser and IPL equipment (AS IEC 60601.2.22, *Medical electrical equipment, Part 2.22: Particular requirements for basic safety and essential performance of surgical, cosmetic, therapeutic and diagnostic laser equipment*, and AS IEC 60601.2.57, *Medical electrical equipment, Part 2.57: Particular requirements for the basic safety and essential performance of non-laser light source equipment intended for therapeutic, diagnostic, monitoring and cosmetic/aesthetic use*, respectively). These Standards incorporate mandatory engineering and installation requirements to be observed by the manufacturers and constructors. Accordingly, this Standard concentrates on identifying those administrative needs and user precautions which are of equal importance. In particular, the importance of staff training is emphasized and this Standard—

- (a) identifies appropriate levels of staff training (i.e. not all staff are required to be trained to the same level); and
- (b) recommends that relevant educational organizations insist on formal medical laser/ILS training and certification of post graduate specialists.

This Standard differs from the second (2004) edition in the following respects:

- (i) Changes to the IEC laser classification scheme.
- (ii) The terminology and language used is intended to make it easier to read, interpret, and implement where applicable, for users and administrators alike.
- (iii) Normative material has been separated from informative material, the latter being in Appendices.
- (iv) Descriptions and definitions have been updated, taking into account the changes in the technology and science of lasers in health care since the second edition.
- (v) Inclusion of consideration of intense light sources, in particular IPLs which, while using incoherent light and thus not lasers, have similar operator and patient safety issues.

The authors thank the International Electrotechnical Commission (IEC) for permission to reproduce information from its International Standards. All such extracts are copyright of IEC, Geneva, Switzerland. All rights reserved. Further information on the IEC is available from www.iec.ch. IEC has no responsibility for the placement and context in which the extracts and contents are reproduced by the author, nor is IEC in any way responsible for the other content or accuracy therein.

The term ‘informative’ has been used in this Standard to define the application of the appendix to which it applies. An ‘informative’ appendix is only for information and guidance.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- Looking for additional Standards? Visit Intertek Inform Infostore
 - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-