AS/NZS 2500:2004

Australian/New Zealand Standard™

Guide to the safe use of electricity in patient care

STANDARDS AUSTRALIA

STANDARDS NEW ZEALAND
Paerewa Aotearoa

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 29 March 2004 and on behalf of the Council of Standards New Zealand on 30 April 2004.
It was published on 13 July 2004.

The following are represented on Committee HE-003:

Auckland District Health Board, New Zealand
Australian College of Physical Scientists and Engineers in Medicine
Australian Society for Ultrasound in Medicine
Australian Dental Association
Australian Institute of Radiography
Australian Radiation Protection and Nuclear Safety Agency
Australian Society of Anaesthetists
Australian and New Zealand College of Anaesthetists
Canterbury District Health Board, New Zealand
College of Biomedical Engineering, Institution of Engineers Australia
Department of Defence (Australia)
Commonwealth Department of Health and Ageing
Medical Industry Association of Australia
Ministry of Economic Development, New Zealand
Royal Australasian College of Radiologists
Testing Interests (Australia)

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 Standards may also be withdrawn.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.standards.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

Alternatively, both organizations publish an annual printed Catalogue with full details of all current Standards. 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 either Standards Australia International or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR 02003.

Australian/New Zealand Standard™

Guide to the safe use of electricity in patient care

Originated as AS 2500—1982.
Previous edition AS/NZS 2500:1995.
Fourth edition 2004.

Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 6170 4

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Sub-Committee HE-003-09, Safe Use of Electricity in Patient Care, under the responsibility of HE-003, Medical Electrical Equipment, to supersede AS/NZS 2500:1995. It sets out guidelines for the safe use of electricity in patient care.

The following interests played a major role in the preparation of this Standard:

Biomedical Services, New Zealand
Department of Human Services, S.A.
Institute of Hospital Engineering, Australia
Queensland Health
Royal Melbourne Hospital

The main differences between this edition and the 1995 edition are as follows:

(a) All patient areas are now required to be at least body protected. (Refer AS/NZS 3003.)

(b) A recommendation for colour coding has been included to distinguish essential, non-essential, UPS and cleaners socket-outlets.

(c) Inclusion of requirements for medical electrical systems and upgrading of mobile communications.

(e) Upgrading of defibrillator requirements.

Safe use of medical electrical equipment (i.e. electrically operated medical equipment) depends on a variety of factors as follows:

(i) The users have to know, not only the medical procedure, but also the safety characteristics and operational details of the equipment. This can be achieved by learning and training under the supervision of either the manufacturer, his local representative, or the user's own biomedical engineering department.

(ii) The equipment has to be safe, i.e. manufacture in accordance with relevant essential principles of safety and performance.

(iii) The installations have to be safe, i.e. electrical wiring in accordance with the requirements of AS/NZS 3003.

(iv) The instructions for use have to be available at the site of use. Such instructions should be in English and written in terms acceptable to the user.

(v) Users and, where available, the biomedical engineering department have to ensure that safety and performance of the equipment are maintained by an effective maintenance scheme with regular servicing in accordance with AS/NZS 3551.

This Standard emphasizes the responsibility of the management of health care facilities to ensure selective purchasing, installation, inspection, maintenance, training and coordination of all aspects necessary to ensure adherence to safe procedures.

Building design, equipment design, purchasing specifications, inspection procedures, preventive maintenance schedules and training programs; each contributes to safety. While primary dependence is placed on the electrical distribution system and equipment, because these are most amenable to specification and control, the safety of patients and operators is equally dependent on the proper maintenance of the installation and all equipment, together with adequate education of all staff in the safe use of equipment.

Some terms, when used in medical electrical safety documents, which have a special significance, are printed in SMALL CAPITALS. An index is provided at the end of this document which indicates where substantive material can be found on these terms and other major topics discussed in the document.

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.

Commonly accepted terms (such as ‘earth wire’) are used throughout this document while the product Standard may use a more precise term (such as ‘protective earthing conductor’).