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CSA Z387:19
National Standard of Canada



Safe use of electrosurgical medical devices and systems in health care



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600-55 Metcalfe Street
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Canada

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Technical Committee on Perioperative Safety

R. Khotar	Providence Health Care, Vancouver, British Columbia, Canada <i>Category: User Management</i>	<i>Chair</i>
B.W. McLeod	Maple Ridge, British Columbia, Canada <i>Category: Health Care Professional</i>	<i>Vice-Chair</i>
A. Bialachowski	St. Joseph's Healthcare Hamilton, Hamilton, Ontario, Canada <i>Category: User Management</i>	
K. Bowden	O-Two Systems Limited, Mississauga, Ontario, Canada	<i>Non-voting</i>
L.D. Boyer	Public Health Ontario, Sudbury, Ontario, Canada <i>Category: Government and/or Regulatory Authority</i>	
K. Brown	Hôpital de Montréal pour Enfants/Montreal Children's Hospital, Montréal, Québec, Canada	<i>Non-voting</i>
G.D. Burrill	Teegor Consulting Inc., Fredericton, New Brunswick, Canada <i>Category: General Interest</i>	
T. Coonan	Dalhousie University, Halifax, Nova Scotia, Canada	<i>Non-voting</i>
S. Dain	Ontario Mobile Anesthesia, London, Ontario, Canada <i>Category: Health Care Professional</i>	
M.B. Dochow	St Joseph's Hospital/McMaster University, Hamilton, Ontario, Canada	<i>Non-voting</i>
S. Hiremath	University of Ottawa and Ottawa Hospital, Ottawa, Ontario, Canada	<i>Non-voting</i>

B. Hunt	Class 1 Inc., Cambridge, Ontario, Canada <i>Category: Producer Interest</i>	
L. Ladouceur	McMaster University, Ottawa, Ontario, Canada	<i>Non-voting</i>
C. Laflamme	Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada <i>Category: Health Care Professional</i>	
C.P. Landers	Landers Consulting, Timmins, Ontario, Canada <i>Category: General Interest</i>	
K.L. LeDez	Memorial University of Newfoundland, St. John's, Newfoundland and Labrador, Canada <i>Category: Health Care Professional</i>	
J. Levett	College of Physicians and Surgeons of British Columbia, Vancouver, British Columbia, Canada <i>Category: Government and/or Regulatory Authority</i>	
T. Martire	GE Health Care, Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
G.J. Mendes	Mississauga, Ontario, Canada	<i>Non-voting</i>
P.I. Mendes-Baldinelli	3M Canada, London, Ontario, Canada <i>Category: Producer Interest</i>	
P. Nellis	Medtronic, St-Laurent, Québec, Canada <i>Category: Producer Interest</i>	
C. O'Neil	Class 1 Inc., Cambridge, Ontario, Canada	<i>Non-voting</i>
P. Padwal	University of Alberta, Edmonton, Alberta, Canada	<i>Non-voting</i>

D.R. Palmerton	International Council on Surgical Plume, Ft. Lauderdale, Florida, USA <i>Category: Producer Interest</i>	
A.W. Prost	Southern Alberta Institute of Technology, Calgary, Alberta, Canada	<i>Non-voting</i>
F. Qureshi	Air Liquide Healthcare/GH Medical, Brampton, Ontario, Canada	<i>Non-voting</i>
R. Sethi	Medtronic, Vancouver, British Columbia, Canada	<i>Non-voting</i>
R.C. Shantz	Parkin Architects Limited, Toronto, Ontario, Canada <i>Category: General Interest</i>	
P.J. Smalley	Technology Concepts International, Chicago, Illinois, USA <i>Category: General Interest</i>	
C. Stark	London Health Sciences Centre, London, Ontario, Canada <i>Category: User Management</i>	
S. Vinden	Vancouver Island Health Authority, Nanaimo, British Columbia, Canada <i>Category: Health Care Professional</i>	
C. Gullia	CSA Group, Toronto, Ontario, Canada	<i>Project Manager</i>

Subcommittee on Safety of Electrosurgical Medical Devices

G. Bruce	Diploma Healthcare Group, Toronto, Ontario, Canada	<i>Chair</i>
D.S. Watson	Medtronic, Boulder, Colorado, USA	<i>Vice-Chair</i>
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M. Ogg	AORN, Denver, Colorado, USA	
D.R. Palmerton	International Council on Surgical Plume, Ft. Lauderdale, Florida, USA	
J. Poirier	AMT Surgical, Kitchener, Ontario, Canada	
M. Samiee	Clinical Engineering Program, c/o Health Sciences Centre, Winnipeg, Manitoba, Canada	
P.J. Smalley	Technology Concepts International, Chicago, Illinois, USA	
G.A. Vilos	St. Joseph's Health Care, London, Ontario, Canada	
S. Fetterly	CSA Group, Toronto, Ontario, Canada	<i>Project Manager</i>

Preface

This is the second edition of CSA Z387, *Safe use of electrosurgical medical devices and systems in health care*. It supersedes the previous edition published in 2013.

This Standard was prepared by the Subcommittee on Safety of Electrosurgical Medical Devices, under the jurisdiction of the Technical Committee on Perioperative Safety and the Strategic Steering Committee on Health Care Technology and Systems, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
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 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

CSA Z387:19

Safe use of electro-surgical medical devices and systems in health care

0 Introduction

Electrosurgery is the intentional passage of high-frequency electrical current through tissue in order to

- a) achieve controlled surgical effects, including the coagulation of blood vessels to minimize bleeding; and
- b) perform incisions, excisions, or ablations of tissue.

Electrosurgery produces “heat” that desiccates tissue, coagulates blood vessels, and can be used in a variety of methods for minimally invasive or open procedures. The use of radio frequency (RF) electrical energy can be hazardous, and medical and nursing personnel need to understand the basics of electricity and electro-surgical units (ESUs), how these units function, and how to utilize them as safely as possible.

A majority of surgical procedures involve the use of energy-based devices (most commonly ESUs and related accessories). Positive patient outcomes depend on knowledgeable staff and the safe and effective use of electro-surgical medical devices in the perioperative setting.

1 Scope

1.1

This Standard deals with the following subjects:

- a) the use of electrical surgical units (ESUs) — medical devices and systems for the application of electro-surgical energy;
- b) training for the use of ESUs; and
- c) the installation of ESUs in any health care facility (HCF), as defined in Clause 3.

1.2

This Standard provides requirements for the education, training, purchasing, installation, use, service, and maintenance of ESUs.

1.3

This Standard does not include requirements for

- a) aspects of laser safety (see CSA Z386);
- b) aspects of other energy-based medical device safety not utilizing electricity to deliver a therapeutic effect (e.g., ultrasonic scalpels); and
- c) surgical plume.

1.4

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the standard; “should” is used to express a recommendation or that