

GUIDELINE FOR LASER SAFETY

The Guideline for Laser Safety was developed by the AORN Recommended Practices Committee and was approved by the AORN Board of Directors. It was presented as proposed recommendations for comments by members and others. The guideline is effective November 1, 2010. The recommendations in the guideline are intended to be achievable and represent what is believed to be an optimal level of practice. Policies and procedures will reflect variations in practice settings and/or clinical situations that determine the degree to which the guideline can be implemented. AORN recognizes the various settings in which perioperative nurses practice; therefore, this guideline is adaptable to various practice settings. These practice settings include traditional operating rooms (ORs), ambulatory surgery centers, physicians' offices, cardiac catheterization laboratories, endoscopy suites, radiology departments, and all other areas where operative and other invasive procedures may be performed.

Purpose

This document provides guidance to perioperative personnel in the use and care of laser equipment and to assist practitioners in providing a safe environment for patients and health care workers during use of laser technology. The guideline incorporates activities described in the American National Standards Institute's (ANSI's) *American National Standards for the Safe Use of Lasers in Health Care Facilities ANSI Z136.3*, which specifies standards for the use of class 3 and class 4 laser devices in the health care environment.¹ Health care facilities are encouraged to obtain *Safe Use of Lasers in Health Care Facilities ANSI Z136.3*² and ANSI's *American National Standard for Safe Use of Lasers ANSI Z136.1*² and to have them readily available in the practice environment.

Recommendation I

A laser safety program should be established for all owned, leased, or borrowed laser equipment in any location where lasers are used in the health care organization.^{1,3,4}

Health care laser systems are classified by their relative hazard and the appropriate controls.¹ Class 3 and primarily class 4 lasers are used in the health care setting. Class 4 laser exposure may be hazardous to eyes and skin, and may pose a potential fire risk.¹ Class 3 lasers are potentially hazardous in the event of direct exposure or exposure to specular reflection (ie, mirror-like reflection of light).^{1,4}

I.a. A formal laser safety program should include, but not be limited to,

- delegating authority and responsibility for supervising laser safety to a laser safety officer (LSO);
 - establishing a multidisciplinary laser safety committee or safety committee³;
 - establishing usage criteria and authorized procedures for all health care personnel working in laser nominal hazard zones;
 - identifying laser hazards and appropriate administrative, engineering, and procedural control measures;
 - educating personnel (eg, operators) regarding the assessment and control of hazards; and
 - managing and reporting accidents or incidents related to laser procedures, including creating action plans to prevent recurrences.¹
- A laser safety program may minimize potential laser hazards. A multidisciplinary laser safety committee is integral to establishing and monitoring laser safety.³

- I.a.1. The multidisciplinary laser safety committee or safety committee may include
- the chief operating officer;
 - the director of patient safety;
 - the patient safety coordinator;
 - the director of biomedical engineering and/or clinical/biomedical engineer⁵;
 - the LSO⁵;
 - the deputy laser safety officer;
 - the chief of surgery;
 - a physician representative from each specialty group using lasers⁵;
 - an anesthesia care provider⁵;
 - the perioperative services director⁵;
 - the perioperative educator;
 - the director of medical staff education/credentialing;
 - the environmental manager⁵;
 - the risk manager;
 - a laser safety specialist (eg, nurse, technician)⁵; and/or
 - the hazardous materials manager.⁵
- I.a.2. The responsibilities of the laser safety committee or safety committee should include, but not be limited to,
- strategic planning (eg, technology assessment, cost analysis, product evaluation);
 - credentialing;
 - hazard assessment;
 - laser safety program oversight;

