

# 10 STEPS TO STARTING A MEDICAL LASER SAFETY PROGRAM IN HEALTH CARE FACILITIES

FACT SHEET



According to the American National Standard for Safe Use of Lasers in Health Care (ANSI Z136.3), the employer must provide a safety program that includes employee training for class 3B and class 4 lasers and laser systems. The following are 10 steps that can help you develop a medical laser safety program that complies with the laser safety standard. This list is not intended to be comprehensive.

1. Appoint a Laser Safety Officer (LSO) and define roles and responsibilities of the LSO per the ANSI Z136.3 standard for the Safe Use of Lasers in Health Care.
2. Train the LSO. According to the ANSI Z136.3 standard, the employer shall provide training on the potential hazards and controls of medical laser systems.
3. Write the laser safety policy statement and develop the details of the Laser Safety Program.
4. Take an inventory of all class 3B and class 4 lasers.
5. Identify which lasers are current on their Preventive Maintenance (PM) and which lasers are compliant with the Food and Drug Administration's Center for Devices and Radiological Health (CDRH) federal requirements. If the lasers are not compliant with the CDRH, contact the manufacturer.
6. Perform a laser hazard assessment of each operating room. Follow the ANSI Z136.3 for Safe Use of Lasers in Health Care standard and the Association of periOperative Registered Nurse's (AORN) recommended practices.
7. Evaluate, document and control non-beam hazards such as laser generated air contaminants due to laser plume.
8. Write standard operating procedures and maintenance procedures for all laser systems. Implement control measures for the control of beam and non-beam hazards.
9. Authorize laser personnel and implement training commensurate to the degree of hazard.
10. Audit the program to make sure the laser safety program is effective and the controls and standard operating procedures for the hazards are working to keep people safe.

Medical Laser	Wavelength (nm)	*Common Medical Application
Excimer	308	Cardio & Peripheral Vascular
Argon	488, 514	Ophthalmology, ENT
KTP	532	Urology, ENT, GYN
Tunable Dye	585-600	Dermatology, Cutaneous
Diode & Tunable Dye	630, 652	PDT
Krypton	647, 676	Ophthalmology
Diode	689	Ophthalmology, PDT
Alexandrite	755	Dermatology, Cutaneous
Diode	800-980	Dermatology, Cutaneous, Vascular
Nd:YAG	1,064	GI, Pulmonary, GYN, Urology
Nd:YAG	1,320	Dermatology, Cutaneous
Diode	1,450	Dermatology, Cutaneous
Ho: YAG	2,100	Urology, Orthopedics
Er:YAG	2,940	Dermatology, Cutaneous
CO <sub>2</sub>	10,600	GYN, Pulmonary, Surgery, ENT, Urology, Podiatry, Cardio Vascular

\*Consult laser operator's manual for specific laser parameters

Under the Occupational Safety and Health Act, employers are responsible for providing a safe and healthy workplace and workers have rights. OSHA can help answer questions or concerns from employers and workers. OSHA's On-site Consultation Program offers free and confidential advice to small and medium-sized businesses, with priority given to high-hazard worksites. For more information, contact your regional or area OSHA office, call 1-800-321-OSHA (6742), or visit [www.osha.gov](http://www.osha.gov).

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# QUESTIONS THAT AN OSHA INSPECTOR MAY ASK YOU ABOUT LASER SAFETY

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Question 8: Have employees been given training? Can you show me the training records?

Rationale: Requirement of ANSI Z136.1.

Question 9: Can you show me your laser warning signs? Are they accurate and ANSI compliant? Are they posted correctly?

Rationale: Signage is part of alerting employees that they are entering a laser controlled area. They need to be accurate and ANSI compliant. A "Laser in Use" sign is not sufficient information.

Question 10: Are entryway access control measures in place such as interlocks or visual indicators?

Rationale: Only authorized personnel should have access to laser operation areas.

Question 11: Do you have a procedure in place for responding to laser accidents?

Rationale: As with any type of accident, there needs to be a response plan.

Question 12: If running more than one shift, how are laser safety concerns dealt with?

Rationale: It is important that second and third shift employees have the same training as first shift.

Question 13: Are all the lasers in use certified?

Rationale: Requirement of the Food and Drug Administration's Center for Devices and Radiological Health (CDRH). All lasers manufactured in the U.S. or imported into the U.S. must be certified by the manufacturer to comply with the federal standard. This means that all lasers must have a hazard class label. Some prototype lasers may not be certified if built and used by the people who created the laser. However, even these lasers should be classified by the builders of the prototype so that the appropriate hazard controls can be implemented to protect the employees from laser radiation.

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of America**  
*Laser Applications and Safety*

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