Summary

This document is intended to serve as guidance for the safe use of laser technology. It is intended as a living document, which will be modified as technologies, and clinical venues change over time. As such, it is not intended to be absolute. This guidance shall be used in conjunction with the tenets of the ANSI Z136.3 (2005) American National Standards for the Safe Use of Lasers in Health Care Facilities guidelines. It should be periodically reviewed and updated as necessary.

Policy

POLICY STATEMENT

1. LASER UTILIZATION: GENERAL REQUIREMENTS AND ADMINISTRATIVE CONTROLS:

A. Lasers are utilized only by individuals who have been credentialed for the use of specific types of lasers. The individual MAY NOT utilize laser technology for purposes and scenarios for which she/he does not have active privileges and appropriate training and experience.

B. Hygienists, Registered Nurses, Licensed Practical Nurses, Technicians and students operate lasers only after completion of an acceptable program of certification. Personnel are certified to operate specific lasers (e.g., CO2, KTP, Nd: YAG, etc.) and specific laser safety classification (class IIIa, IIIb or IV).

C. Any utilization or operation of these laser devices, misappropriation of the laser beam, or harm to the patient or personnel will be reported on an “incident report” form according to facility policy. The Laser Safety Officer and other appropriate personnel shall be notified immediately. Copies of the incident report and supporting documents shall be forwarded to the Laser Safety Officer immediately.

D. Corrective action relating to any incident or quality issue as it pertains to laser use of a laser device shall be determined by the nature and severity of the incident and shall be consistent with local facility, state and federal regulations.

E. Laser devices and accessories will be returned to the dispensary clean and in good working order.
2. **LASER PROTECTION FOR PERSONNEL AND PATIENTS:**

   A. Eye protection is utilized by all personnel and patients in all areas wherein a Class IIIb and/or IV laser is in use. The eye protection is specific to the type and wavelength of laser used and shall be provided to all present within the room as well as being available at all entrances to the area.

   B. Window blinds are drawn or all windows are blocked as is appropriate to procedure and wavelength. These requirements should be reviewed with the Laser Safety Officer for each specific laser application.

   C. In the event that the laser equipment malfunctions and the laser operator is unable to troubleshoot the problem, laser utilization is discontinued immediately. The Laser Safety Officer shall be notified immediately.

   F. No laser shall be utilized (made ready) unless, water, saline and/or a fire extinguisher is immediately available.

3. **PATIENT SURGERY AS RELATED TO THE USE OF LASERS:**

   **Note:** This brief outline is not intended to be all inclusive nor should the general principles of sterile technique and the operating room environment be violated.

   A. Surgeons using a laser have the responsibility to know how to use the laser properly in order to protect the patient and the Operating Room Personnel.

   B. The surgeon will assume responsibility for selecting proper power levels and the appropriate lens and/or delivery systems (e.g., fibers, waveguides, microscopes, etc.) for each procedure.

   C. To minimize the possibility of a fire hazard, all laser procedures shall have a container of water (saline, fire extinguisher) that is immediately available in the treatment area. All sponges are to be moistened prior to use for packing or placement in the beam path. Specific safety measures for the particular laser in use shall be implemented.

   D. During the procedure, the patient’s eyes are to be taped shut and moist pads applied if the procedure is done under a general anesthetic. Patients will wear safety goggles if awake during the procedure.

   E. A laser log will be kept for each procedure, and entered in the patient chart in the Progress Notes. The log will include, but is not limited to:

      1. Patient’s name and facility ID number
      2. Physician performing the laser procedure; the Laser Operator and other personnel directly involved in the laser procedure.
      3. Type of procedure

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4. Wattage used and mode

5. Lens or delivery system used

6. Listing of fibers or other delivery devises utilized, if any

This log will be kept with each laser unit.

F. The laser will be placed on standby in an effort to avoid accidental discharging of the laser when the unit is not in use. The laser shall be turned off when the laser is left unattended for a substantial period of time.

G. The key to the laser is to be accessible only to persons trained in the use of laser and/or to the Laser Nurse Specialist or technician. The keys shall be kept in a secure location (in the dispensary) and are not to be stored in or on the equipment.

H. No alcohol or other flammable solutions will be used as prep solutions or in the presence of operating lasers.

4. PERSONNEL SAFETY:

A. All employees, when working in areas where a potential exposure to direct or reflected laser light greater than 0.005 watts (5 milliwatts) exists, shall be provided with wavelength specific anti-laser eye protection. All protective goggles shall bear a label identifying the laser for which use is intended.

B. Areas in which lasers are used shall be posted with standard laser warning signs.

C. The laser beam shall not be directed at anyone other than the patient (operative site).

D. Protective barriers (portable unless otherwise specified) shall be placed around the operatory where the procedure is being performed prior to initiation of the laser procedure.

5. PHYSICIAN CREDENTIALING:

A. NO ONE should be allowed to use or operate a laser without having attended a specialty-specific and safety workshop approved by the Laser Usage Committee or having had appropriate training and/or documentation of equivalent experience.

B. Credentialed physicians will be reviewed annually as to continued use of and safe use of the laser.

C. A dentist, physician or dental student who is newly credentialed must be observed using the laser in the designated laser area to assure competency.

D. Laser Privileges must be reviewed with each renewal of clinical privileges (biennial).

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A physician must document that a minimum of five (5) procedures have been performed over the most recent two (2) year period in order to maintain active privileges for laser use.

E. Physicians who fail to perform a minimum of five (5) procedures during the prior two (2) years will no longer be considered to have privileges for laser use. They will be notified of same in writing. Said physicians may apply for reinstatement after having provided documentation of proficient and ongoing laser use at another institution or after having attended an approved, specialty and wavelength specific hands-on laser training program. The Laser Usage Committee will individually review each case.

6. CRITERIA FOR GRANTING LASER PRIVILEGES:

A. The individual must first have been granted appropriate privileges by the facility through the designated certification and facility process. The individual must have privileges to perform requested procedures in the absence of laser use.

B. The individual must have been trained to use laser(s) in a recognized and approved residency program or must have obtained training through an appropriate CME/CDE course of a minimum of 6-8 hours having been devoted to the teaching of laser principles and safety and provide a certificate of completion. Training must include documentation of successfully performing 5 mentored successful laser procedures with an individual who has laser privileges.

The facility’s Laser Usage Committee will review and revise the listing of appropriate training courses and minimum hours of experience necessary for certification for use of the particular laser for which privileges are requested as the need for training and as the provider of programs changes over time. When submitting a request for certification as a user of lasers, the physician must supply a certificate documenting that he/she attended a wavelength and specialty-specific laser course and also present documentation as to the content of that course. The course must include laser physics, safety and principles of laser use, discussion and demonstration of surgical lasers, and hands-on laboratory training with lasers, preferably with laser systems similar to those instruments available at this institution.

C. The user of the laser must be cognizant of the safety hazards of lasers. This knowledge must be obtained either through a residency program or an appropriate CME/CDE course.

Proof of this training must be supplied in writing to the Laser Usage Committee at the time privileges are requested.

D. The criteria for recertification shall be set forth and a yearly review of cases and their outcomes shall be performed.
BACKGROUND

Under its Health and Safety Policy, the University at Buffalo is committed to taking every reasonable precaution for the health and safety of its employees and students. Recognizing that lasers can present a significant hazard the School of Dental Medicine is developing a laser safety program, a fundamental component of which is the Laser Safety Committee.

In order to effectively control laser hazards, the laser safety program requires registration of all Class 3b and Class 4 lasers and laser systems, review of credentials or training of all users of these lasers, medical surveillance where appropriate, and on-going inspection of these laser installations.

DEFINITIONS

Authorized User – Authorized user means a clinician who: Meets the requirements set out in this policy for the privileges in the medical use of lasers.

Laser – A device that produces radiant energy predominantly by stimulated emission. Laser radiation may be highly coherent temporally, or spatially, or both.

Laser Classification – An indication of the beam hazard level of a laser or laser system during normal operation or the determination thereof. The hazard level of a laser or laser system is represented by a number or a numbered capital letter. The laser classifications are Class 1, Class 1M, Class2, Class2M, Class3R, Class 3B and Class4. In general the potential beam hazard level increases in the same order.

Laser Safety Committee – The formal body which is authorized by the SDM to develop policy, procedures and oversee the use of lasers within the SDM.

Medical Use of Laser Radiation – means the intentional internal or external administration of laser radiation from a device, to patients or human research subjects under the supervision of an authorized user.

RESPONSIBILITY

Clinician: All SDM attending or visiting clinicians requiring privileges for the use of laser radiation on humans are required to comply with this policy.

Department Chairs: The Department Chairs are responsible for ensuring that the clinician requesting privileges has provided the information required by this policy prior to submitting to the appropriate committee.

Laser Safety Committee: The Laser Safety Committee (LSC) is responsible for overseeing the use of lasers within the SDM, and ensuring the information submitted by clinicians for privileges is consistent with applicable regulations. The LSC is also responsible for deciding whether to impose additional requirements or restrictions on those requesting privileges according to the LSC charter.
**Laser Safety Officer:** The Laser Safety Officer (LSO) is the person authorized and responsible for the laser safety program. This individual has the training and/or experience to administer a laser safety program and has responsibility for oversight and control of laser hazards. The LSO is authorized by the administration and is responsible for monitoring and overseeing the control of laser hazards. The LSO shall ensure that appropriate laser safety education and training is provided to all people associated with lasers, such as providers, clinicians, staff, technicians, students and other health care personnel.

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**Related Information**