- Running penetration tests
- Limiting control of physical access
- Maintaining regularly scheduled backups, which are stored in a physical, offline location

Provisions should be made for communicating a security breach internally and notifying any affected party externally. For example, the General Data Protection Regulation (GDPR), in the European Union, implemented regulations for breach notification and penalties when not adhered to.

Measurable Elements of HCT.01.05

1. Ⓓ The hospital maintains, and tests at least annually, a written incident response program that includes the following:
   - Identifying the probable impact a cyberattack on data systems will have on all aspects of care and operations (*See also* HCT.01.04, ME 1)
   - Identifying strategies for the provision of ongoing safe and high-quality care and services
2. The program identifies internal and external communication strategies for those affected by cyberattacks or events.
3. The hospital implements recovery tactics and ongoing data backup processes to recover and maintain data, ensuring data integrity, confidentiality, and security.

Management of Lasers, Electrosurgical, and Other Optical Radiation Devices

Standard HCT.02.00

The hospital establishes and implements a program for the safe use of lasers, electrosurgical, and other optical radiation devices used for performing procedures and treatments.

Intent of HCT.02.00

Nearly all lasers, electrosurgical, and other optical radiation devices that are used in the clinical setting pose potential hazards for patients and staff if safety procedures and guidelines are not established and followed.

Lasers are a source of optical radiation, which includes ultraviolet radiation, high-intensity visible light, and infrared radiation. The narrow beam of high-intensity light from a laser can be targeted and focused for precise surgical procedures. As technology evolves, the use of lasers is becoming more common with surgical procedures, and their clinical use is broadening.

Laser surgeries are generally minimally invasive with less blood loss than conventional surgery, and patients typically experience shorter recovery times. Lasers are also used in noninvasive procedures providing safer alternatives for treating conditions without surgical intervention.

Lasers and other optical radiation devices can generate intense concentrations of heat, light, and reflected light. When the skin and eyes are exposed to the heat and light without adequate protection, skin burns and eye injuries, such as retinal burns, cataracts, and macular degeneration, may result. Injuries can come from direct contact with the light or with the reflected light from the laser.

Plumes are another potential hazard. These are the vapors, smoke, and particles produced during some surgical procedures. Plumes produced by lasers and electrosurgical devices (for example, cautery units) introduce a potential respiratory hazard for patients and staff, as they may contain irritants, toxins, tissue, bacteria, viruses, blood fragments, and other particles, depending on the type of procedure.

To prevent these hazards and address safety risks to patients and staff, the hospital establishes and implements a program for the safe use of lasers, electrosurgical, and other optical radiation devices using industry standards and professional guidelines. The program complies with laws and regulations and includes the following:

- A qualified individual who has oversight and supervision of the laser, electrosurgical, and optical radiation safety program
- Training in safety practices and procedures for all staff who are involved in the use of lasers electrosurgical, and other optical radiation devices
- Ongoing education and training are provided for new procedures, practices, devices, and equipment.
- Documentation of training and ongoing education
- Administrative and engineering controls to promote safety and prevent injury
- Availability of personal protective equipment for staff and patients appropriate to the type of laser, electrosurgical, or other optical radiation device being used, or type of procedure performed in the hospital (for example, goggles, corneal shields, masks, gloves, and/or gowns as applicable)
- A maintenance program for lasers, electrosurgical, and other optical radiation devices, and a process for routine performance checks such as calibration and alignment
- Coordination with the facility management and infection prevention and control programs; all facility safety events and infection control events need to be reported.
- Detecting and reporting adverse health effects and identifying and implementing improvements to prevent recurrence

Laser surgery interventions include the following:

- LASIK and cataract surgery
- Removal of skin lesions
- Treatment of varicose veins
- Dentistry procedures to remove tooth decay or recontour soft tissue

Noninvasive, optical radiation treatments can include the following:

- Intense pulsed light therapy to treat skin conditions
- Ultraviolet radiation to treat psoriasis
- Lasers to whiten teeth
- High-intensity visible light for dental procedures
- Light therapy for treatment of pain and inflammation
- Infrared radiation to treat strained muscles and soft tissue

Adverse events resulting from the use of lasers, electrosurgical, and other optical radiation devices are reported, and action plans to prevent recurrence are implemented and monitored. Controls used to promote safety and prevent injury are implemented. Examples include the following:

- Criteria and processes for authorizing staff who enter and/or work in the areas (hazard zones) where lasers and other optical radiation are used
- The hospital identifies any additional staff who may require access to hazard zones.
- Warning signs placed outside procedure areas to alert staff, patients, families, and visitors when a treatment or procedure is being performed
- Appropriate ventilation and plume evacuation to help manage smoke plumes
- Use of nonreflective instruments to prevent exposures to reflective light
- Use of drapes and other barriers to prevent staff, patients, families, and visitors from inadvertently being exposed to direct or reflected light

Measurable Elements of HCT.02.00

1. Ⓓ The hospital's written program for the safe use of lasers, electrosurgical, and other optical radiation devices meets the following criteria:
   - Is based on industry standards and professional guidelines and complies with applicable laws and regulations.
   - Is part of the hospital's facility management and safety structure.
   - Provides reports at least annually and when any safety events occur.

   (*See also* FMS.03.00, ME 1)
2. A qualified individual with the appropriate training and experience has oversight and supervision of the laser, electrosurgical, and optical radiation safety program.
3. Ⓓ All staff involved in the use of lasers, electrosurgical, and other optical radiation devices receive safety training and continuing education; the training and ongoing education are documented.
4. The hospital establishes and implements administrative and engineering controls for the laser, electrosurgical, and optical radiation safety program to promote safety and prevent injury for patients and staff.
5. Personal protective equipment appropriate to the type of lasers, electrosurgical, and other optical radiation devices and type of procedures is available for staff and patients, and staff use it correctly and ensure that patients and staff are protected during procedures.
6. The hospital has processes for inspection, testing, and maintenance of lasers, electrosurgical, and other optical radiation devices, including routine calibration and alignment checks of lasers, and these activities are performed by qualified and trained individuals.