

# Got lasers? Get training!

If you use lasers at JHU, getting training and education on their safe use of lasers will help you properly handle the hazards you face. The type and severity of the risks depends on the Class of the laser and its use.

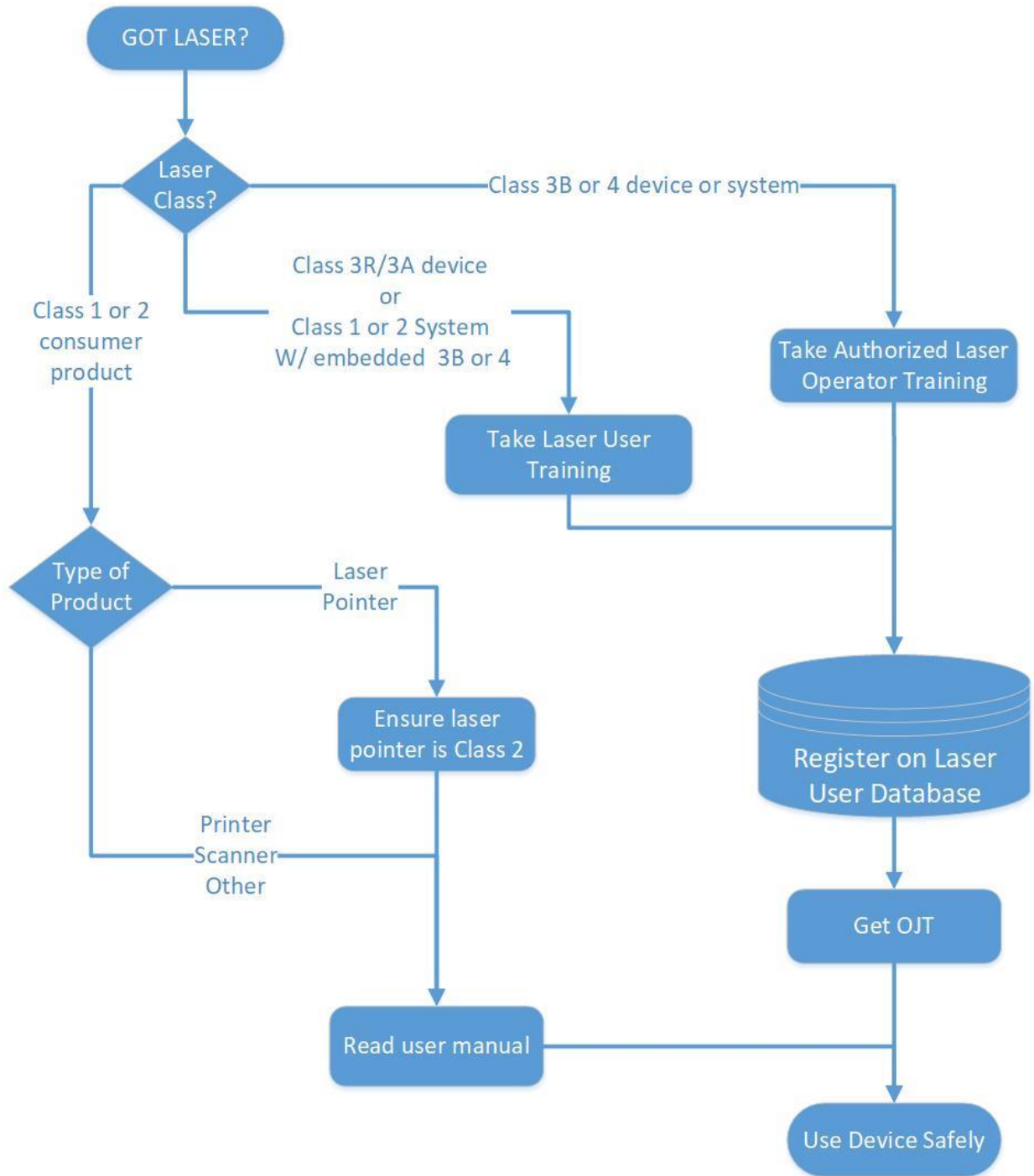


Figure 1: What do you do?

**I will be only be using a consumer type laser product** (e.g.: Laser Printer, Class 2 Laser Pointer or presenter, or other sealed consumer product).

These types of laser are considered inherently safe because of specific engineering controls which prevent exposure to unsafe levels of laser emissions and/or the body's natural response to bright lights. As a result, you only need to be familiar proper use of the product and follow the guidance as supplied in the user manual.

For Laser pointers the JHU Homewood Campus only allows the use of Class 2 laser pointers without prior authorization by the LSA. Check your device before using it to ensure that it has device is properly classified, if you are unsure contact the LSA, Niel Leon ([nleon1@jhu.edu](mailto:nleon1@jhu.edu)).

To ensure your safety and the safety of others:

1. **Never** disassembly them to gain access to the laser. The exposed laser could present other hazards including high voltage and chemicals.
2. **Never** point lasers at yourself or others. Although the aversion response should help protect you, it is still not safe to do to this. If you point the laser at the wrong person, they may believe you intend to do them harm.
3. **Always** read the user's manual before using laser-based devices for the first time. Review and understand **all** the cautions and warnings.

*I just watch others perform laser-based experiments, so I can learn how to do them or otherwise observe, or I normally work in a lab with non-active Class 4 lasers. I will never enter the Nominal Hazard Zone of the laser beam.*

You should take the myLearning course ***The Safe Use of Lasers in the Laboratory***. This qualifies you to be a ***Laser Observer***.

**Note:** As an observer your safety is dependent on the skills and situational awareness of the person operating the laser system. Do not hesitate ask questions if you are unsure about something or are concerned about your safety.

*I use Class 1 or Class 2 laboratory, or industrial laser systems designed to be inherently safe as long as engineering controls remain in place—laser cutters, conformal microscopes, teaching laser setups, etc. Alternatively, I use non-medical laser setups of Class 3R, 3B, and/or 4, but I never enter the Nominal Hazard Zone of the laser beam.*

You should also take the myLearning course ***The Safe Use of Lasers in the Laboratory***. This qualifies you to be a ***Laser User***.

**Note:** Some of the above listed devices are not certified as Class 1 or 2 devices. Before using them be sure to read the operators manual and be sure to confirm that the device follows all appropriate FDA CDRH requirements.

*I work with non-medical laser systems of Class 3R, 3B, and/or 4. At times, I may be required to enter the Nominal Hazard Zone of the laser or align and adjust the laser.*

You should take the **Authorized Laser Operator** series of myLearning courses:

1. **The Physics of Lasers and Laser Light;**
2. **Beam and Non-beam Hazards; and**
3. **Laser System Controls and Operational Practices.**

*I work with medical laser systems.*

You should take the Laser Institute of America course **Safe Use of Lasers for Medical Applications**. See Laser Safety Advocate Niel Leon ([nleon1@jhu.edu](mailto:nleon1@jhu.edu)) for more information on this course. If you are **only** using lasers in a patient-care/medical setting, you may need only this course.

## What do these courses involve?

**The Safe Use of Lasers in the Laboratory** takes about 30 minutes to complete, with a 25-question assessment at the end. It provides basic information about lasers to help you remain safe when working with Class 1 and 2 laser systems.

The **Authorized Laser Operator** series modules each take approximately 40 minutes to complete, plus an assessment. They do **not** need to be completed in one session. You must pass all three modules in order to pass the course.

- **The Physics of Lasers and Laser Light** provides information on unique characteristics of lasers and laser light, emphasizing how they affect your safety and that of those around you.
- **Beam and Non-beam Hazards** discusses the variety of laser hazards, emphasizing those which do not derive directly from the beam itself. Non-beam hazards can be much more dangerous than beam-related hazards.
- **Laser System Controls and Operational Practices** helps you understand how each of the laser's beam and non-beam hazards are assessed and controlled.

The **Safe Use of Lasers for Medical Applications** course covers distinct differences in how laser hazards are controlled in a medical setting as opposed to a research or teaching lab. Medical laser practice depends much more on rigid procedures than engineering controls, and there are additional ethical considerations related to treating patients.

## What do I need to do?

1. Take your required courses through myLearning (or through the Laser Institute of America, in the case of the medical training). Be sure to download a copy of your PDF completion certificate.
  - a. [The Safe Use of Lasers in the Laboratory](#)
  - b. [Becoming an Authorized Laser Operator](#)

You will need to login with your JHEID credentials to get to these courses.

- c. ***LIA Safe Use of Lasers for Medical Applications***
2. Register as a Laser User in the JHU Laser Management System (<http://labsafety.jhu.edu/laser-safety/>). Indicate your Laser Installation Supervisor (the person who supervises lasers in your lab—this may be the principal investigator, a staff member, or perhaps a postdoctoral fellow).
3. Give a copy of your completion certificate to your laboratory supervisor or principal investigator.
4. Reserve time with your principal investigator or Laser Installation Supervisor to receive on-the-job training covering hazard controls and operating procedures for the exact laser system you will use.

If you are a Laser Observer or User changing roles, you may update your information (including any new certificate or new supervisor) in the laser management system.