

LESSONS TO BE LEARNED

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Type of Incident: **Laser eye injury**

What Happened: A student, working alone with a Class 4 laser, wished to align the laser but chose not to use eye protection. The student removed a shield, meant to guard against accidental eye exposure and injury, and received a flash exposure from a laser flash of the edge of the optical lens. The laser guard was not interlocked with the power, which would have prevented laser operation when the guard was removed.

Immediate Cause: Failure to interlock laser power to guard mechanism.
Failure to use eye protection.
Intentional removal of guard safety device.

Root Causes: Hazardous equipment must have features that prevent injury to the users, even if they intentionally try to defeat the guards and shields. Many modern scientific instruments contain features that reduce or eliminate the potential for accidental exposure and injury. These features are present to reduce product liability, based on past injury experience.

Corrective Actions

1. Provide retraining of the research lab staff and students on laser hazards and safe laser use.
2. Install interlocking laser power to the guard mechanism For thousands of older instruments that contain few or no safety features, the laboratory manager is responsible for identifying critical hazard points and guarding them with shields or power interlocks.
3. Ensure accountability of supervision to require that proper procedures are enforced, including proper use of eye protection.
4. Ensure that all employees and students understand that unauthorized removal, dismantling or otherwise rendering inoperative any safety device is strictly prohibited.

