Laser Pointer Safety

Mischief and kids go hand in hand at times. For example, when digital watches became inexpensive enough for every school-aged child to have one, kids would use the glass faces to shine patches of light at other students, teachers and objects.

Kids will be kids of course, and young people are doing the same thing in schools across the country today using laser pointers. The difference is laser light from pointers poses a much greater risk to the eye than the relatively primitive method used by children in days past. The energy a pointer can direct into the eye is many times brighter than staring directly at the sun.

Use and Misuse of Pointers

Commercial laser pointers are most commonly designed to assist speakers when giving lectures or business presentations. A high-tech alternative to the retractable, metal pointer, the laser pointer beam will produce a small dot of light on whatever object at which it is aimed. It can draw an audience?s attention to a particular key point in a slide show.

Pointers are also used for other purposes such as the aligning of other lasers, laying pipes in construction, and as aiming devices for firearms.

Much like the digital watches about 15 years ago, laser pointers have become very affordable recently due to new developments in laser technology. They are widely available at electronic stores, novelty shops, through mail order catalogs and by numerous other sources. As inexpensive as $20 or even less, they are in the price range of other electronic toys and are being treated as such by many parents and children. One woman wrote the Laser Institute of America describing how other mothers she knew bought laser pointers for their elementary-aged children so they could imitate Luke Skywalker and Darth Vader and duel with them.

Green laser pointers are not toys! This lesson was brought home to a small school district in Wisconsin in the fall of 1996. A 16-year-old girl was illuminated in the eye from the beams of laser pointers used as pranks. She experienced two momentary exposures, one while performing a pom pom routine and again while walking down a hallway. She reported the incidents to her parents, adding that after the first exposure, everything looked green; after the second, she could temporarily not see out of her right eye.

While this is one of the most dramatic examples to date, there are numerous reports of similar, momentary exposures across the U.S. and the U.K. While it seems clear such brief exposures can cause only brief effects, there is no reason to ever shine a pointer towards someone. The Laser Institute of America and the American Academy of Ophthalmology have also received reports of people exposed for longer amounts of time, including two verified retinal injuries caused by intentionally staring into pointers. For more information about these incidents, AAO?s web site, www.eyenet.org, should be consulted.

laser pointers Tips:

Never shine a laser pointer at anyone. Laser pointers are designed to illustrate inanimate objects.

Do not allow minors to use a pointer unsupervised. Laser pointers are not toys.

Do not point a laser pointer at mirror-like surfaces. A reflected beam can act like a direct beam on the eye.

Be aware of irresponsible uses of pointers so the psychological effect will be minimized if you are illuminated by one.

Do not purchase a laser pointer if it does not have a caution or danger sticker on it identifying its class. Report suspicious devices to the FDA.

Laser experts agree that laser pointers should not be used to pull pranks. School children are not the only ones finding mischievous uses for laser pointers. A Florida man paid the price for such a prank when he was arrested for scanning the ground near an off-duty police officer. The Laser Institute of America has also received reports of individuals shining laser pointers at athletes during sporting events and at people as they are driving.

These types of incidents have started to spur government action. In November of 1997, the U.K. banned a certain class of higher-powered pointer from sale. In December, 1997, the U.S. Food and Drug Administration issued its warning against allowing juveniles to use them (see below).

The FDA requires manufacturers to place a warning on pointers, telling users not to look into the beam. These warnings are small and easy to ignore, however, as evidenced in widespread misuse of the devices.

Secondary Effects

Safety professionals are especially concerned about secondary effects, those experienced during critical activities such as driving down a busy highway. If the driver lost control due to either a split second visual effect or a psychological effect (startle or panic), the consequences could be dire. There are reports of pilots who have had to look away or hand control of a landing airplane over to a co-pilot after similar incidents from more powerful light show lasers.

Laser experts agree that transient visual effects are possible and should be addressed. These effects are called glare, flashblindness, and afterimage. While there are slight differences in the definitions scientists use for these terms, they all refer to some vision disruption that lasts only a few seconds or minutes. The Laser Institute of America has received one report where exposure to a laser pointer startled a bus driver resulting in a traffic accident.

People often have strong psychological reactions to being illuminated with a laser beam. One researcher found that at times people receive eye injuries, not from the beam itself, but by a strong response that includes vigorously rubbing or sticking their fingers in their eye.

Laser pointers are making their way into the public consciousness. Unfortunately, in one of the last episodes of the popular TV series ?Seinfeld? in May, 1998, the lovable neurotic George is pursued through the streets of New York by a laser pointer-wielding prankster.

The Laser Institute of America feels that further regulation of laser pointers should now be considered. One viable option is to further limit the power that laser pointers can emit.

Education is also key. By informing parents, teachers and society at large about the potential hazards laser pointers present, any risks posed by them can be minimized, and the devices can continue to be used properly and safely, as primarily intended.

The LIA hopes that through its efforts, and those of its members and affiliated organizations, inappropriate and irresponsible uses of laser pointers are discouraged.