USACHPPM
Readiness thru Health

65-023-0503

Just the Facts...

Laser Eye Exposures - Individual

LASERS ARE USED TO RANGE TO TARGETS OR MARK (DESIGNATE) THEM FOR LASER GUIDED MUNITIONS. THEY ARE ALSO USED TO ILLUMINATE TARGET AREAS OR COVERTLY POINT TO TARGETS WHILE USING NIGHT VISION GOGGLES. THEY ARE MOST COMMONLY USED IN DIRECT-FIRE SIMULATORS SUCH AS MILES.

GENERAL INFORMATION	Lasers are intense sources of visible or invisible light. Invisible lasers can not be seen with the naked eye but may be seen through night vision goggles. The laser was invented in 1960 and since that time many diverse uses in the military, medicine and industry have been developed.
ROUTINE USES IN THE DEPLOYED SETTING	Lasers are used to range to targets or mark (designate) targets for laser guided munitions. They also are used in tactical training (MILES) and to point small arms while using night vision goggles. The enemy also has similar laser devices.
PERSONAL PROTECTIVE EQUIPMENT (PPE) and COUNTERMEASURES AVAILABLE FOR DEPLOYED PERSONNEL	Day sights in vehicles and helicopters have built-in laser filters to protect the viewer from laser exposure. Individual soldiers have laser eye protectors (BLPS/SPECS) available that will provide protection against most laser exposures. Aviators have visors that provide the same level of protection as the individual soldier. Since the laser is a line-of-sight hazard, eliminating the line-of-sight between you and the laser source would prevent direct exposure and the potential for eye injury.
LEVELS OF POSSIBLE EXPOSURE	Laser rangefinders and target designators emit levels of laser light that are capable of causing blindness at close distances for a direct exposure. MILES equipment is safe for field use while tactical pointers used with NVG are above the safe limit but do not pose the acute injury risk that rangefinders and designators do. Classroom laser pointers do not present a risk of injury for accidental exposures. .
SIGNS & SYMPTOMS OF ACUTE AND CHRONIC EXPOSURE	Lasers may interfere with vision either temporarily or permanently in one or both eyes. At low energy levels, lasers may produce temporary reduction in visual performance during critical military tasks, such as aiming weapons or flying aircraft. At higher energy levels they may produce serious long-term visual loss. A "black" spot may be present in the field of view. A distinct pop or flash may be felt during the actual exposure. A flash of light hundreds of times brighter than the sun may indicate direct exposure to a laser beam. There are no known 'cumulative" exposure risks from military lasers.
REVERSIBILITY OF ACUTE AND CHRONIC HEALTH EFFECTS	Temporary effects such as afterimages, and flash blindness are reversible. Long-term irreversible visual effects such as blindness are possible from a direct exposure to some rangefinders and most target designators at very close range.
TREATMENT REQUIRED/AVAILABLE FOR EXPOSURE	The immediate treatment for laser exposure is to stop the exposure when visual effects occur. Prevention of the laser exposure is even more desirable! There is no first aid for laser injury. A soldier diagnosed with a laser eye injury is evacuated to a hospital where examination by an ophthalmologist is necessary.
LONG TERM MEDICAL SURVEILLANCE REQUIREMENTS OF HEALTH EFFECTS MONITORING	There is no long-term medical monitoring for laser exposure
RISK COMMUNICATION ISSUES	Laser eye injury is not life threatening and chances for some if not total recovery are good.

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