

341.67/354 (ENG
Br.)

ICRC

CAMPAIGN BROCHURE

BLINDING WEAPONS



Gas 1918 ... Lasers 1990s ?

BIBLIOTHEQUE - CICR
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341.67/354
(ENG. Br.)



INTERNATIONAL COMMITTEE OF THE RED CROSS

Intentional blinding: unacceptable even in war

Sudden, endless, inescapable darkness. You cannot walk, eat, work or read without help... ever again. You do not know how you look, and you will never see your children smile. Day and night merge into one. You feel like a burden on your family and forgotten by society. There will be no recovery, only coping for the rest of your life with the effects of a split-second attack on your eyes.

Within a few years soldiers, police and even civilians may encounter a new and haunting force on the battlefield and on city streets — blinding laser weapons. These are portable, highly effective and could become widely available. If these blinding weapons proliferate, they are bound to get into the wrong hands.

The images above never have to become reality if the use of blinding laser weapons is banned as being abhorrent to the conscience of humanity. Concerned individuals and groups

have enough time and information available to stop a new and repugnant weapon before its horrors are proven in the theatre of war.

A United Nations conference will convene in September 1995 to update the 1980 United Nations Weapons Convention which relates to certain arms considered to be excessively cruel. Governments will consider the adoption of an amendment, already supported by more than a dozen states from four continents, which establishes the norm that intentional blinding should never be used as a means of warfare.

An injunction against blinding as a method of warfare — if implemented responsibly in countries possessing advanced laser technology — could stop the development and production of blinding laser weapons and prevent their spread to other states and armed groups. This modest goal is achievable in 1995. Later may be too late.



A low-laser energy weapon is used in conjunction with an M-16.

Reprinted with permission of National Defense magazine.

This brochure is based on information gathered from military and technical specialists, ophthalmologists, psychologists and legal experts during four meetings organized by the ICRC between 1989 and 1991. The results of these meetings and the technical papers presented can be found in "Blinding Weapons", a book published by the ICRC in 1993. This publication is available on request from the ICRC.

Unfortunately, the ICRC is unable to publish any photographs of anti-personnel lasers. Although such photographs do exist, and some have been printed by error, the ICRC has been refused permission to publish them.

Lasers as weapons of war

Laser technology has developed rapidly in recent years. Its value in the context of medical operations, pipeline construction and other civilian applications is widely recognized.

Modern military forces currently rely on lasers in range finders, target designators, radar and other advanced technologies. Anti-matériel lasers, to be used against enemy equipment, are also subject to intense military interest and are in the process of development.

Lasers which are usable against both personnel and against certain sensors are in an advanced stage of development. Those which are easily portable are more likely to be used as anti-personnel weapons.

Portable lasers

Technological progress has rendered low-energy lasers increasingly portable, a result which has important implications for their future military use. Whereas in the past laser weapons required large energy sources, the low-energy laser weapons currently being developed are powered by portable battery packs which can be strapped to a soldier's back.



An artist's impression of a laser rifle based on material published in a military journal.

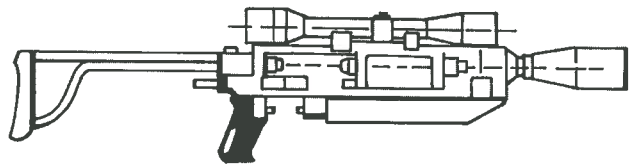
Portable lasers are capable of silently scanning the battlefield with an invisible beam of light with a range of one or more kilometres. At a distance of one kilometre from the target, the beam will have expanded to a width of at least 50 centimetres. Anyone whose eyes are hit by the beam would be blinded, in most cases permanently.

Trends point to the widespread availability of portable lasers on the battlefield in the coming decade.

Laser rifles, which can destroy the eyesight of soldiers or civilians, have already undergone extensive testing and in some countries could be deployed in military units in the mid- to late 1990s. These blinding weapons are similar in size to ordinary rifles and, if produced in large quantities, could be no more expensive than their conventional counterpart.

A terrorist's tool

Experts have made it clear that if production of anti-personnel lasers in industrial countries proceeds on a large scale, these weapons can be expected to become widely available. The fact that they are small, light and require no ammunition will make low-energy laser weapons attractive to insurgency movements, terrorists and criminal organizations. In addition, lasers are silent, invisible and leave no ballistic evidence.



An illustrator's sketch of a recent model of a laser rifle being considered for use by the infantry. This line drawing by Janet Petitpierre is based on material published in a military journal.

Laser rifles can be transported easily, thereby rendering preventive measures against their illegal proliferation difficult, if not impossible. The widespread availability of anti-personnel lasers could have serious consequences not only for traditional armies but also for police forces, politicians, public officials and for civilians in general.

"The U.S. Army has field tested two hand-held laser weapons that could be used to blind enemy troops and to burn infrared sensors and periscopes on enemy armored vehicles."

Neil Munro
Defense News, 5 March 1990

"The Army got 1,100 of them and put them into field tests," said one of the sources, referring to the anti-personnel variation of the COBRA [laser rifle]."

Mark Tapscott & Kay Atwal
Defense Electronics, February 1993

How lasers destroy sight

Anti-personnel lasers, which focus the laser beam on the retina, rely on the eye's ability to magnify light by some 100,000 times. Thus, a low-energy laser which would have no effect on other body tissue can totally destroy the central retina — leaving the victim permanently blind. Treatment is only possible in cases where the laser has caused haemorrhages in peripheral areas of the retina. Even then the outcome is uncertain and highly trained doctors are obliged to operate within 48 hours in advanced medical facilities found rarely in industrialized countries, let alone near battlefields.

Flash blinding

Although “flash blinding” or “dazzling”, in which temporary blindness is caused, has attracted the interest of some military planners it is impossible to develop a laser which can only flash blind. The energy level required for flash blinding is so close to the threshold for permanent blinding that it can only be achieved consistently under ideal conditions in which distance, angle of exposure, atmospheric pollution and other factors are precisely controlled. Even then flash blinding could occur only at night when the eye is most sensitive to low levels of light. The amount of light energy required to attempt flash blinding in daylight would almost inevitably cause permanent blindness instead.

No protection

Protection against the effects of anti-personnel lasers is virtually non-existent without severely hindering the ability to see and to carry out activities requiring sight. Although protective goggles can filter out lasers of known wavelengths, laser rifles can be designed either to fire “shots” at many wavelengths simultaneously or else to use many different wavelengths in the space of less than a second.

The screening out of all wavelengths, which is necessary for full protection, would block out all light and leave the protected person unable to see.

The only partial protection is to wear a patch on one eye with the consequent reduction in depth and peripheral vision. This would at least prevent blinding in one eye.

The risk of blinding is even greater at night when the eye is particularly sensitive to light. In darkened conditions a powerful “attention reflex” employing a flash of visible light can trick a soldier into looking in a particular direction. If the flash is followed within a second by a laser pulse of sufficient energy aimed at the eye, blinding will be virtually certain.

Sudden blindness: four testimonials

“Suddenly I didn't know what to think. I kept hoping for it to clear. I felt all beat up inside. I was frustrated. I kept asking the doctors whether they could take my eyes out and put in new ones... Night after night I lay awake just thinking of how bad things were. I thought of doing away with myself, maybe putting my head in a gas oven. I didn't want to go out anywhere. What can I do for a job? I just sit at home.”

David

“I could talk better before I lost my eyesight, but I'm quieter now and I don't know what to say. I don't know what will happen next, although I tell myself tomorrow's another day and everything will be ok, but I know it won't be.”

Alan

“Rehabilitation can't really give me my eyesight back. I want to go back to work and earn as much as the next man. I don't want sympathy or a job just sitting around being paid for my blindness. I don't want my wife working full time and taking care of me.”

Edmund

“I've been withdrawn and felt isolated even when I go out with my wife. I've been embarrassed and felt I was no good. I had lots of self pity. I've been more anxious and jumpy and wondered, why me? I did nothing wrong. It was a shock and I was young. It doesn't make sense.”

John

Blind people often try to learn new occupational skills. This training requires patience, a strong personality and determination. Long-term support from the family and society is also essential.



Blindness: the long-term effects

Disability

Blinding is much more severe than most other wounds inflicted on the battlefield. Expert studies indicate that some 60 per cent of casualties in conventional warfare eventually recover. The functions of an arm or a leg can be regained through use of prosthetic devices. With destruction of the central retina or optic nerve, there is no prosthesis and no recovery.

Blinding is an injury which affects multiple functions and results in severe disability. Some 80 to 90 per cent of a person's sensory stimulation comes through sight. Work at one's previous capacity is impossible. Blindness renders a person unable to perform functions which most people take for granted: reading, writing, driving, locating objects, walking without fear of bodily harm and reacting to facial expressions of friends or loved ones. And this for life.

Depression

The loss of independence is invariably accompanied by the loss of self-esteem and, inevitably, psychological depression. The blind person becomes largely dependent on others for daily needs and is often unable to work. Although some functions can be regained through intensive long-term rehabilitation, psychological depression makes even limited recovery a slow and difficult process. Depression is particularly severe when blindness occurs suddenly.

A social burden

Blindness is a heavy burden for both the family and society. An intensive effort involving support, rehabilitation and reintegration is required even though success is far from assured. Satisfactory results are seen almost exclusively among people with strong personalities, good educational backgrounds and sound financial, family and social support.

Economic loss

The economic cost to society of support for rehabilitation and care of the blind is great. When combined with the major reduction in an individual's ability to contribute to his or her society the costs are even more significant. Even in modern technologically advanced countries the resources available for support and rehabilitation of the blind are small; in poorer countries resources may simply not be available. Therefore, the blind are entirely dependent on their family or are left to fend for themselves.

If intentional blinding as a method of warfare is not prohibited, and the proliferation of blinding lasers cannot be prevented, a major financial investment will be required to deal with the consequences of the laser battlefield. A large number of surgical ophthalmologists will need specialized training, more eye hospitals will have to be set up and many long-term rehabilitation programmes will be essential.

A sharp increase in eye injuries

The number of eye injuries in warfare has steadily risen, from 0.5 per cent in the last century to between 5 and 9 per cent in the Vietnam War.

This increase was largely due to the introduction of sophisticated fragmentation weapons

(which explode and scatter small fragments). It has been estimated that if lasers were used intentionally to inflict blindness, so that blinding as a method of warfare became common practice, serious eye damage might account for between 25 and 50 per cent of all casualties.

The ICRC urges prohibition

Two Red Cross doctors carry out basic eye surgery. In the case of laser injury, surgery is no use unless the beam has only caused haemorrhages in peripheral areas of the retina. Even then, the most sophisticated equipment is necessary and a surgical intervention may not save the patient's sight.

The International Committee of the Red Cross (ICRC), in fulfillment of its responsibility for the promotion and development of international humanitarian law, has become increasingly concerned with the threat posed by blinding laser weapons to civilians and soldiers alike.

The ICRC agrees with the view of numerous military, legal and medical experts who consider blinding as a method of warfare to be a superfluous injury and a cause of unnecessary suffering, both of which are prohibited under existing international humanitarian law.

However, given that this view may not be universally shared and that uncertainties may lead to the future deployment of anti-personnel lasers, the ICRC strongly supports an explicit prohibition on blinding as a method of warfare in the context of international treaty law.

Both the ICRC and Sweden have proposed amendments to the 1980 UN Weapons Convention which would prohibit blinding as a method of warfare. At the August 1994 Meeting of Governmental Experts to prepare amendments to the 1980 UN Convention, 12 countries from Asia, Europe, Latin America and the Pacific expressed support for the ICRC and Swedish proposals. These amendments will be considered for adoption by a Review Conference of States Parties to the 1980 UN Weapons Convention which will be convened in September 1995.

The ICRC and Swedish proposals aim to establish a norm against blinding which would be contained in a new Protocol to the 1980 UN Convention. Both focus only on the use of blinding weapons but it is intended that the establishment of a rule against their use would also discourage the development, production and transfer of weapons designed for the purpose of blinding. At a later date specific prohibitions on the production, possession and transfer of certain lasers designed for anti-personnel use may be considered. Neither the ICRC nor the Swedish proposal, which are considered compatible, would require lengthy negotiations or detailed technical discussions.

A prohibition on blinding as a method of warfare would in no way impinge on the many other uses of lasers by military forces or their use for medical, industrial or other civilian purposes.



International Labour Office

Laboriously relearning by hand what was once achieved through sight. Unfortunately, very little is ever translated into Braille.

RED CROSS SOCIETY

The ICRC appeal

The International Committee of the Red Cross appeals to ordinary citizens, military personnel, parliamentarians and organizations concerned with the protection of humanity to ensure that in 1995 intentional blinding is specifically prohibited under international law. The 1995 Review Conference of States Parties to the 1980 UN Weapons Convention presents a unique and probably unrepeatable opportunity to stigmatize blinding as a method of warfare and thereby prevent a new wave of unnecessary human suffering.

Public abhorrence at the sight of poison-gas victims 80 years ago led to the 1925 Geneva Protocol prohibiting the use of chemical and biological weapons in warfare. This was an important factor in ensuring that such weapons were used in only a few of the many hundreds of armed conflicts since World War I. It also contributed to the achievement of global bans on biological and chemical weapons, in 1972 and 1993 respectively.

The ICRC appeals to the conscience of humanity to ensure that a flood of blinded soldiers or civilians will not be needed before intentional blinding is also outlawed.

Swedish Proposal

It is prohibited to use laser beams as an anti-personnel method of warfare, with the intention or expected result of seriously damaging the eyesight of persons.

ICRC Proposal

Blinding as a method of warfare is prohibited.
Laser weapons may not be used against the eyesight of persons.



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Cover photo: British Red Cross Society, Imperial War Museum
COMREX, September 1994
Original: English

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