

Kinetic Impact Projectiles



Crowd-Control Weapons Series

Overview

Kinetic impact projectiles (KIPs) commonly known as rubber and plastic bullets, are used for crowd-control purposes by law enforcement worldwide in multiples forms and are shot from myriad types of guns and launchers. The findings of a systematic review of global medical literature carried out by Physicians for Human Rights indicate that KIPs cause **serious injury, disability, and death**. KIPs are inherently inaccurate when fired from afar and therefore can cause unintended injuries to bystanders and strike vulnerable body parts; at close range they are likely to be lethal. Therefore, KIPs are **not an appropriate weapon** to be used for crowd management and specifically for dispersal purposes.

History

The first kinetic impact projectiles used in protests were sawed-off pieces of broom handles that were shot against rioter in **Singapore** in the 1880s. **The British** also developed first wooden, then plastic. polyvinylchloride (PVC) and rubber bullets for use in demonstrations in Northern Ireland. **The United States** began using rubber and plastic bullets during Vietnam War protests.

How They Work

KIPs work by transferring kinetic energy from a weapon into a person. KIPs are purportedly designed to inflict pain and incapacitate an individual without penetrating the body. In theory, the larger shape and slower speed of KIPs should limit their ability to penetrate the skin or cause deep blunt trauma injury. However, due to their irregular shape and slower speed, KIPs are often inaccurate and therefore can strike vulnerable body parts or unintended targets.

Device Types

Rubber and plastic bullets are solid, spherical, or cylindrical projectiles of variable sizes fired as single shots or in groups of multiple projectiles. Pellets can be made of rubber, plastic, PVC, or a composite including metal.

Bean bag rounds, also known as flexible batons, are synthetic cloth bags filled with small metal pellets that are fit into a cartridge and expand as they travel to create a wide surface area impact.

Sponge rounds is a term for projectiles that limit penetration of the projectile into the skin by having a tip or nose that is slightly softer. These include: foam rounds with a hard foam nose or attenuated energy projectiles with a hollow nose.

Pellet rounds are cartridges filled with small lead, steel, or plastic/ rubber pellets that spread out when fired. Metal shot such as buckshot and birdshot are considered crowd- control weapons by some countries.

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Health Effects

KIPs can cause **blunt** or **penetrative trauma**. Penetrative injuries are those that pierce the skin or soft tissue. Blunt injuries are those that cause internal damage without breaking the skin barrier. All projectiles can cause these injuries but projectiles with metal cores (rubber coated metal bullets) or composite metal fragments can cause significantly worse injury.

Eyes: Direct trauma to the eye from KIPs nearly always causes total blindness in that eye, due to rupture of the globe (eyeball) as well as trauma to nearby structures. KIPs can also penetrate through the eyesocket and enter the brain, causing brain injury.

Cardiorespiratory System: KIPs can cause bruising of the lungs or heart and penetration into the chest may cause serious, possibly fatal, injuries such as bleeding, pneumothorax, and heart attacks.

Musculoskeletal System: Injuries to the muscles and bones may cause sprains, bruises, and fractures. Deeper injuries can cause permanent damage to the neurovascular structures, leading to amputations or compartment syndrome.

Brain: Blunt trauma to the brain can cause concussions and bruising inside the brain (contusions) as well as different types of bleeding in the brain (intracranial hemorrhage) and skull fractures. KIPs have also been known to penetrate the skull or enter the brain tissue, causing hemorrhage, injury to the spinal cord, and severe brain injury from the foreign body.

Head and Neck: The delicate structures of the face and neck are particularly vulnerable to traumatic injury. The bones of the face and skull, the spinal cord, and the blood vessels in the neck are all close to the skin surface.

Abdominal: Blunt injuries can cause bleeding in the solid organs such as the liver, kidney, and spleen; penetrative injuries can also cause bleeding, perforations, and urogenital injuries.

Skin and soft Tissue: KIPs can cause bruising and contusions of the skin and soft tissue, as well as superficial and deep lacerations, some of which may cause muscle or nerve damage as well as bleeding.

Legality of Use

International human rights law protects the right to freedom of assembly, including the right to hold public or private meetings, marches, processions, demonstrations, and sit-ins.

The state has a duty to protect those exercising their right to peaceful assembly from any type of violence, including violence from law enforcement agents and counter-protesters. As long as the purpose of the assembly is peaceful, incidental violence does not discharge the state from this obligation to protect.

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Legality of Use *continued*

International legal principles require law enforcement agencies to adopt rules and regulations for the use of force within the following parameters:

- The use of force must be minimized, targeted, proportional, and directed at de-escalating violence.
- The use of less than lethal incapacitating weapons must be carefully controlled.
- The deployment of less than lethal incapacitating weapons must occur in a manner that minimizes the risk of endangering uninvolved persons.
- Restraint must be shown in all use of force by law enforcement agents, with a view to minimizing injury and loss of life.

In addition, the state has an obligation to ensure that assistance and medical aid are rendered to any injured or affected persons at the earliest possible moment.

International human rights principles have been violated if the use of less than lethal incapacitating weapons is not adequately regulated, or if the weapons are used in an indiscriminate manner.

Considerations and Policy Recommendations

Indiscriminate KIPs that fire multiple projectiles, such as shotgun pellets, should be prohibited in the context of protests.

KIPs in general are not an appropriate weapon for crowd managements and specifically for dispersal purposes. Most cannot be used effectively and safely against crowds. At close ranges, levels of lethality and patterns of injury of some KIPs become similar to those of live ammunition. At longer ranges, KIPs are inaccurate and indiscriminate. Some KIPs are lethal in close range and ineffective at longer distances which make safe use difficult.

Direct trauma to the eye from KIPs always causes total blindness in that eye. **Some types of KIPs are able to provide a less lethal and accurate alternative.**

Deployment of those KIPs should be restricted to circumstances where a threat to life or a threat of serious injury exists and where all other means to protect lives are inapplicable.



Physicians for
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