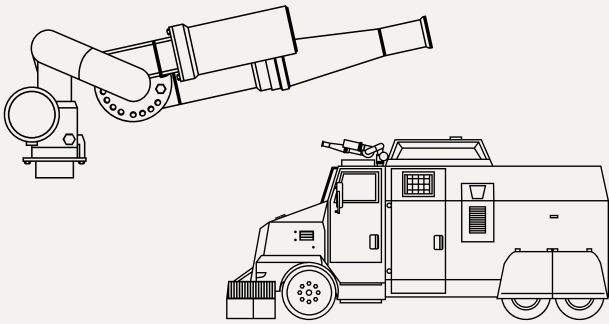


WATER CANNONS

High- or low-velocity streams of water, commonly known as water cannons, are frequently used for dispersing crowds or limiting access to certain areas. Their health risks, along with practical and human rights concerns about communication, intimidation, indiscriminate and disproportionate use, and collective punishment highlight water cannons' potential for misuse.

How they work

Water cannons propel streams of high-pressure water aimed at pushing back crowds through the force of impact, or low-pressure streams intended solely to douse. Modern water cannons can have flow rates of up to 20 liters of water per second, and can stream water 67 meters away. Like impact projectiles, the force of the stream of water is attenuated with distance, and the use of water cannons at close ranges can result in severe injuries.



Deployment mechanism

In addition to their primary payload of water, different agents may be mixed into water cannons to create secondary impacts. Colored dyes, malodorous chemicals, and invisible UV markers are used as means of collective punishment or for the purpose of later identifying and arresting protestors. Chemical irritants in concentrated form can be dissolved or dispersed in water to add an irritant effect to water.

Common types

Water cannons are connected to in-ground water supplies or mobile reservoirs, often vehicle mounted.



Health Impacts

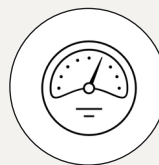
Water cannons can affect the health of individuals in a number of ways. Direct injuries may include traumatic or internal injuries from the impact of the water stream, which has enough force to break bones and cause blindness. The force of the water jet can cause individuals to lose their balance or even propel them into objects in the environment; most reported deaths from water cannons come from these "secondary" impact injuries. Chemical additives to the water may also have negative health effects. Long-lasting malodorous chemical agents have been reported to cause prolonged nausea and labored breathing.

Variables that can exacerbate injuries

Injuries can vary in intensity depending on the pressure, distance, and duration of exposure, as well as the ability of the targeted people to disperse safely. The environment may add additional risk. Extremely hot water has the potential to burn, while the use of water cannons in cold conditions may cause hypothermia and frostbite.

Policy recommendations

- » Contextual factors must always be considered before making a decision to deploy water cannons, specifically when used in cold weather or where dispersal may not be safe.
- » Dyes and other chemical agents are not appropriate for the purposes of safe management of crowds and should be prohibited. The primary outcome of these additives appears to be collective punishment and humiliation, which are not legitimate policing tactics.
- » Regulations on appropriate water pressures, temperatures, and limitations on distance should be defined both by manufacturers and law enforcement departments.



PRESSURE



FIRING
DISTANCE



BURNS, HYPOTHERMIA
& FROSTBITE