

The Health Consequences of Riot Control Methods

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The killing of George Floyd at the hands of police has set off worldwide protests. Aggressive police responses, advocated by the President, have exacerbated the inevitable violence attached to such demonstrations, mainly through the use of riot control tactics. Since 9/11, police forces across the country have become increasingly militarized. Riot tactics against peaceful protestors, such as those deployed at Lafayette Square on June 1st for a Presidential photo op, are excessive and present significant risk to the health and safety of protestors, as well as uninvolved bystanders, observers, and even the police themselves.

In this brief I discuss the history, utilization, and health consequences of riot control tactics. I focus on chemical weapons, “less-than-lethal” munitions, and crowd control. I also discuss the risks of riot control tactics and police escalation, and offer recommendations related to the proper use of such measures.

Chemical Weapons

Chemical weapons are toxic substances designed to incapacitate or kill those exposed through inhalation or skin contact. Chemical weapons are delivered through a variety of means from artillery shells, bombs, rockets, missiles, or directly through dispersion munitions, grenades, or chemically infused munitions such as “pepper rounds.”

The U.S. public is unaccustomed to seeing tear gas deployed in its own cities and neighborhoods. Whereas these tactics are common in countries with authoritarian governments, we do not usually see them deployed in democracies where freedom to protest is a fundamental right. Authoritarian regimes, such as Saddam Hussein in Iraq and Bashar al Assad in Syria, have used toxic chemicals on their own civilian populations, including nerve gasses, and chlorine “barrel bombs.” More democratic countries use less toxic substances and “less-than-lethal” means of controlling civilian unrest, such as tear gas. While the legality and ethics of the use of tear gas are in question, it may be useful to understand what the agent is and how it affects the body.

C.S. gas (2-chlorobenzylidene malononitrile), also known as “tear gas,” has short and long-term effects of the body from both direct and indirect exposure to the agent. Tear gas was originally designed to clear bunkers during warfare. The immediate effects of tear gas begin within 20 seconds and begin to wear off after about 15 minutes. In non-medical terms, the chemical agent causes severe eye irritation, pain, and blurring of vision. The substance also causes tear duct and sinus irritation causing rapid onset of secretions that often drip out of the eyes and nose. It causes excessive salivation and rapid irritation of the nose, mouth, throat, and airways. More disturbingly, the agent causes shortness of breath, tightness in the chest, retching, and vomiting.¹ Long term studies highlight lasting health damage, such a reduced pulmonary function, ongoing cough, increased or worsening asthma, and recurrent chest pains as long as 10-12 months after exposure.^{2,3,4} Pepper spray, known as O.C. (oleoresin capsicum) gas, produces similar immediate effects, including irritation to the eyes, lungs, skin, and mouth. No threshold for O.C. safety has been established. People with asthma, emphysema, or other respiratory issues are more likely

to be harmed by these substances. Deaths and disability have been linked to the use of the substance. In addition to the agents used, the means of dispersal via projectile munition may also cause physical soft tissue injuries when misused, burning hot cannisters may cause burns, and pepper ball projectiles may strike the face and eyes causing disfigurement and blindness.⁶

“Less-Than-Lethal” Munitions

Social media is currently filled with depictions of soft tissue injuries from "rubber bullets." These "less than lethal" munitions come in various sizes and are made from various materials in addition to rubber (e.g., plastic, wax, wood). A study examining the use of low-velocity rubber bullets in Israel concluded that the practice is deadly.⁷ The researchers found that the elasticity of the skin at the point of impact determined whether blunt or penetrating trauma resulted from the impact. The inaccuracy, improper range of use, and improper aiming resulted in the death of a substantial number of people. A review on the use of these so-called “less than lethal” munitions over 27 years concluded that the potential lethality of such projectiles makes them explicitly unsuited for crowd control, citing up to a 3% fatality rate.⁸ Several examples from recent protests highlight the danger of these munitions. In Austin, Texas, a 20 year old student suffered a brain injury and a fractured skull after being shot in the head.⁹ A photojournalist was permanently blinded after being shot at close range in the left eye.¹⁰ The American Academy of Ophthalmology has issued a statement calling on police to cease using these rounds for crowd dispersal.¹¹

Flashbangs

Flashbangs, like those used in the Seattle and Denver protests, are designed to startle and temporarily incapacitate individuals by setting off a bright flash and a loud explosion. They are used in breaching techniques in hostage situations and crowd control. A report from the Institute for Defense Analyses states that flashbangs can be "a lifesaver or a liability," depending on how they are deployed. The authors go on to say, "When improperly deployed, they have the potential to cause serious bodily injuries and property damage. In addition, the surprise or "startle" element associated with flashbangs can trigger varying degrees of psychological and physiological distress. Arguably, the startle effect alone may result in more serious consequences (such as stress to vital organs such as the heart) than the physical effects of the flashbang per se."¹²

Escalation by Police

When police seek to clear an area by escalating the use of force with flashbangs, teargas, and rubber bullets, they often incite the very violence they are trying to control. There is a feedback loop of escalation and retaliation.¹³ De-escalation techniques are defined as the use of techniques that reduce the need for the use of force, such as proper communication, coordinated teamwork, shielding, and the minimization of physical confrontation. In protest situations, communication by police may go unheard, or disregarded. However, consideration of risk and benefits of directives to crowds should be considered. Hostile crowds may lead police to assert more control, even when such hostility is largely verbal or presents no physical danger to well-shielded police. Escalation of force against hostile crowds represents a loss of control over the situation, rather than control, instigating a negative feedback loop.¹⁴ Additionally, police may have relatively arbitrary orders that, when weighed against the possibility of violence, may not be in the best interests of either the police or the protestors. This is common in the case of highway blocking. Police are often ordered to maintain thru traffic capacities, and when such verbal orders to clear the highway are disregarded by protestors, police may escalate their use of force. Considering the possible outcomes, it may be best for police to allow highway protests to continue, rather than attempt to disperse the crowd. Traffic can usually be rerouted in several ways, as police often do in the case of traffic accidents, sporting events, and other instances.

Another consideration for police is the degree to which property should be protected in such instances. Businesses are usually insured, and destruction of brick and mortar buildings, fire, and looting may not warrant the potential use of escalation tactics. Obviously, every situation is different. Police should be trained to weigh the dangers to protestors when they seek to control such events. However, property damage should not be an automatic means of escalation of force in protest situations. When absolutely necessary, escalation should be handled separate and apart from peaceful crowds. Blanket escalation of force against peaceful protestors due to the actions of a limited few who may destroy property should be resisted. In general, human life, safety, and the right to protest should be held in higher value than property. Qualitative differences also exist in the purposes of crowds and protests. For example, riots following sporting events are different than free speech demonstrations. Such events should warrant different tactical considerations by police.

Research demonstrates that police escalation resulting in the escalation of violence is due to several factors. First, recent repression of crowds and individuals attracts a larger number of violent individuals to such protests. Second, the number of individuals with violent intentions increases the likelihood of violence. Third, organizing and group norms drastically influence whether a crowd will become violent or not. This latter point can be seen most clearly in the ways the recent protests have become better organized and also less violent over a period of days. In addition, the cost of violence versus the cost of non-violence is the chief mechanism by which crowds either remain calm or become violent.¹⁵ In the case of the recent protests, two factors make this equation unique. The first factor is that it is police brutality itself that is being protested. Ergo, evidence of brutality through escalation creates a dynamic where protestors feel they must turn violent to defend themselves against the very force they are protesting. Second, the use of arbitrary repression appears to protestors as violence for the sake of violence by police, and thus requires violence in turn to protect oneself. Finally, the police themselves may see the crowd as hostile regardless of the degree of violence because the protests are specifically aimed at the police. This elevates the tension between protestors and police who both feel threatened by the presence of the other.

To be sure, law enforcement should have the necessary means to control violence. However, the role of police in protests is, and should be, limited by law. According to the ACLU, the role of the police is to ensure that the right to protest is protected and to de-escalate any violence.¹⁰ But, what we have seen is that these tactics have escalated and inflamed the violence. One reason is because it is police brutality itself that is being protested. Thus, the use of police violence represents the specific threat that individuals have turned out to protest and is seen as an immediate threat by protestors, who then respond with violence themselves. Furthermore, the use of tear gas and rubber bullets for arbitrary purposes, such as Presidential photo opportunities or simply to clear certain areas, even when the protest is peaceful, is a clear abuse of riot control techniques.

Recommendations Regarding the Use of “Less than Lethal” Methods

Riot control techniques carry significant risk to the life and health of protestors, observers such as journalists, and uninvolved bystanders. They also put police at risk of violent retaliation. Tensions run high when it is the police themselves that are the subject of protests, and any escalation by police will be seen as evidence of their brutality. Riot control techniques under these conditions should be restricted to times when there is imminent threat to the protestors. The duty of police in protest situations is to protect the constitutional right to protest, and to ensure the safety of the protestors. The use of chemicals, and so-called “less than lethal” munitions should be a last resort, used only with clear and concise tactical goals to restore peace. In recent days we have seen several instances where such

techniques were used for arbitrary purposes, to “make a statement,” or simply as a show of force. Arbitrary goals to disperse peaceful protestors should be weighed against the risk of escalation. Police must be trained to understand that any show of police force will likely result in escalation by the crowd and therefore should only be used in extreme situations.

The U.S. government should limit or ban the use of chemical weapons and less-than-lethal munitions for crowd control purposes. Additionally, while police are trained in the use of force, they are rarely trained in the use of de-escalation techniques, including negotiating with organizers. As the old saying goes, "When the only tool you have is a hammer, everything appears to be a nail." Training on de-escalation, including annual refresher courses, should be mandated for all police. Concise rules of engagement should be unified across responding departments and in the case of nationwide protests. Continual and ongoing re-assessment of crowd control goals in light of risk and benefits should be standard. Most importantly, the goals of the police should reflect the constitutional protection of the right to protest while protecting the protestors themselves. Police actions should reflect the goal of de-escalation rather than arbitrary enforcement of street clearing without a purpose or need. Finally, response to protests should remain free from political influence. No officer of the law or military should fulfill orders which do not place the protesters' safety first and protect their right to protest. The U.S. Park Police and National Guard's [removal of and deployment of tear gas](#) on peaceful protestors at St. John's Church and Lafayette Park in Washington, DC on June 1, 2020 for an unplanned Presidential photo should be viewed by all Americans as a clear abuse of power that threatened the safety of U.S. citizens.

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