**Use of pellet guns for crowd control in Kashmir: How lethal is “non-lethal”?**

the use of these “non-lethal” weapons often leads to serious injuries, permanent disability, and death

Not many weapons can cause effects that are temporary and reversible without any medical intervention, yet unpleasant enough to ensure crowd compliance; certainly not pellet guns. The fact that volatile conditions, inaccuracies in the aim of the pellets, over-use of the pellet guns and the perception of their harmlessness exacerbate the damaging effects of these guns.

**Haar RJ, Iacopino V, Ranadive N, et alDeath, injury and disability from kinetic impact projectiles in crowd-control settings: a systematic reviewBMJ Open 2017;7:e018154. doi: 10.1136/bmjopen-2017-018154**

rubber or plastic bullets, are used commonly in crowd-control settings.

associated health consequences of severe injury, disability and death

Most clinical effects secondary to CS gas exposure are acute and transient. These include ocular effects: lacrimation, blepharospasm, eye irritation, conjunctivitis and periorbital oedema, which typically onset within minutes and resolves in 1 day.3 Respiratory manifestations can occur immediately such as cough, dyspnoea, haemoptysis, bronchoconstriction and laryngospasm; or after a latency period of up to 1 to 2 weeks causing hypersensitivity pneumonitis or reactive airways dysfunction syndrome

Compared with unexposed controls, patients exposed to CS gas demonstrate sustained worse lung function in terms of the proportion of forced expired volume in first second to forced vital capacity, and the maximum mid-expiratory flow rate, especially if they are smokers.4 Gastrointestinal symptoms including diarrhoea, vomiting, haematemesis, and abdominal pain have also been attributed to CS gas exposure or ingestion.

Perhaps less appreciated are the dermatological effects of CS, which ranged from mild erythema to extensive blistering and burn. These can have variable latency period from minutes to 2 weeks.

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**Health risks of exposure to CS gas (tear gas): an update for healthcare practitioners in Hong Kong**

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chemical irritants have been considered “nonlethal” or “less lethal” but the intent of temporary irritation may misrepresent the actual health consequences and the impacts of real-world use and misuse of these weapon

Eighteen of the disabilities were secondary to traumatic injuries from the projectile munitions. These included globe ruptures and blindness (four people), traumatic brain injury resulting in a persistent vegetative state (one person), limb amputations (three people), and functional loss of limbs (10 people). Persistent psychiatric symptoms were documented in 14 people and persistent symptoms of asthma and other respiratory complaints were reported in 23 people. Chronic dermatological conditions such as hypersensitivity reactions were documented by skin testing in three people

**Haar, R.J., Iacopino, V., Ranadive, N. et al. Health impacts of chemical irritants used for crowd control: a systematic review of the injuries and deaths caused by tear gas and pepper spray. BMC Public Health 17, 831 (2017).** [**https://doi.org/10.1186/s12889-017-4814-6**](https://doi.org/10.1186/s12889-017-4814-6)

instantaneous irritation to the eyes, nose, mouth, skin, and respiratory tract.9 Dermal effects include itching, stinging, and redness, with potential blistering and allergic contact dermatitis.25 Ocular exposure can result in lacrimation, blepharospasm, itching, and burning sensation.26 When inhaled, CS often leads to coughing, choking, salivation, and chest tightness.11 OC exposure causes pain and tingling in the respiratory tract, accompanied by coughing

**ANNALS OF THE NEW YORK ACADEMY OF SCIENCES Issue: Countermeasures Against Chemical Threats Tear gas: an epidemiological and mechanistic reassessment**

**https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5096012/pdf/NYAS-1378-96.pdf**