

Preventing tear gas and pepper spray exposure?

- Pepper spray (OC) can be defended from by physically blocking the stream of OC chemical. **Shields and clothing covering mucus membranes (eyes, nose, mouth) can be effective.**
- Tear gas (CS) is often dispensed in canisters, which can be thrown back in the direction they came from, or destroyed.
 - Be aware that **CS gas canisters are hot!** Only touch them with oven mitts, tongs, or ideally, welding gloves. Personally, I prefer sleeve-length rawhide SMAW gloves. They're cheap, easy to find at a welding supply store, and very tough. Good for things other than picking up hot shit.
 - To "return" CS gas to its "sender", [consider using a tennis racket or simply kicking it.](#)
 - **It appears that the CS "tear gas" canisters fired from 40mm launchers have a diameter 40mm +-1, length of 122mm +-2.** If you're going to extinguish it, use a water bottle made of stainless steel and with larger dimensions, obviously.
 - By far the most effective method is to [pour water on the CS gas canister, essentially extinguishing the exothermic reaction which causes the CS particulate to be aerosolized.](#)
- A gas or battery-powered leaf blower can be used to disperse CS gas in any direction you want.
- Keep in mind that OC and CS will both linger on items long after they've been hit with those chemicals.

Defending from tear gas and pepper spray exposure?

- Tear gas (CS) and pepper spray (OC) are two very different things, though both used in protests.
- Tear gas is a particulate, not a gas, so N95/covid masks will help. Any mask is better than no mask! **CS and OC both attack the mucus membranes.**
- **DO NOT** rub your eyes, nose, or mouth if sprayed. Try to gently wipe away contaminants.
- The effects of tear gas tend to go away once you leave the cloud of CS "gas" itself.
 - [Maalox antacid can help treat the effects of CS gas.](#) Mix 50/50 with water.
- Pepper spray (OC) lingers and should be rinsed off at once.
 - Blinking rapidly to start producing tears and washing it out of your eyes may help before you can seek better treatment.
 - Maalox or any other antacid spray won't work for OC spray. However, basic dishwashing soap and water will work, so long as you don't rub it in further.
 - To make dishwashing liquid more effective, you can purchase adapters to [turn water bottles into portable eye-wash stations.](#)
 - Sudecon wipes are very effective.
 - [Guide from the perspective of a care provider.](#)
 - Yogurt, sour cream, and pour mineral oil then alcohol over one's face have been suggested, but limited info is available on if they're truly effective. **Be careful**

with alcohol, as denatured alcohol may contain methanol, which can lead to permanent blindness.

Body armour?

Police and military look like they do for a reason; their attire is tried and true when it comes to riots and warfare. Wearing similar gear is *mostly* a good idea. The caveat is that as a protester, you often want to "be like water" as was said in the Hong Kong protests, wherein you move around from place to place to avoid capture. Therefore, a mix of tight-fitting clothing that can't be grabbed, while still protecting your shins, elbows, arms, and head, is a good idea.

- [Consider wearing black athletic wear, trail shoes, high-top shoes, or light boots.](#)
- Wear gloves if at all possible! [Lightweight work gloves with some impact resistance](#) (e.g. Mechanix-style gloves) are a good choice.
- Wear ANSI-rated (or similar) safety glasses or goggles to protect from shrapnel, and ideally, wrap a cord around them to keep them on your head.
- Goggles will protect you from shrapnel or rubber bullets, as well as tear gas and pepper spray.
- Cut-up tire rubber can be used to make rudimentary but effective shin guards, knee guards, elbow guards, arm guards.
- hard hats, bike helmets, etc. all provide good protection. Even a knit winter hat will help soften a blow.
- Shields are effective; do not underestimate shields!
 - A cookie pan would fare well and absorb impacts well.
 - [Plywood might work too](#), though I'd recommend doubling it up and DO NOT use chipboard, because of the way it could splinter.
 - [Cut a barrel in half and turn into into a shield!](#)
 - Polycarbonate plastic would be ideal. It's what the "real" shields are made of.
 - You can make an extremely strong but effective shield with fibreglass, or use a hybrid of materials, if wrapped around aluminum or plywood.
 - **If you build any shield, back it with foam or tire rubber to protect your arm and elbow.** You'll want a loop to hold your inner arm/elbow, a pad for your forearm, and another loop to hold onto with your hand.
- Pikes can be used to bring distance between you and the opposition. Ideally, have a long stick and oil one end so if grabbed, it won't be easy to hold a grip. Cut some sort of rough, notched pattern into you end, to aid grip. Wear gloves!
- **DIY bulletproof body armour** [from fibreglass boat and RV repair kits is possible!](#) I wouldn't recommend it if you have other options, but it'll do the job, up to 12G slugs if you know what you're doing. It's success is wholly contingent on how adept you are at making it. Don't attempt this if you don't know what you're doing!

Lasers as a non-lethal deterrent to violence?

Handheld 0.5W or larger lasers may be used to deter violence by aiming at the attacker's eyes. Keep in mind that this is dangerous, and it **will cause temporary or permanent eye damage** to whoever you point it at and are defending yourself from.

Lasers are difficult to aim in a sustained manner at any reasonable distance. They would best be used with a small sort of bipod or monopod to help stabilize them.

Green lasers are readily available and effective. Blue/violet lasers tend to be more powerful. Red lasers tend to be less powerful from my experience of seeing what's out there to buy easily. However, red/orange laser goggles are the most common and will block light all light except light in the same spectrum as the colour of the goggles. So, red laser goggles will **allow a red laser to shine through, but block green lasers, and sometimes but not always violet lasers.** Choose accordingly.

Common vehicles you may be up against?

- **How to disable vehicles?**
 - Breaking the glass of a vehicle and then throwing in [butyric acid](#) will stink the vehicle up terribly. It's a great, non-violent approach, but makes the vehicle difficult to use again as the smell lingers and stays on surfaces for a long time.
 - Sugar in the gas tank does NOT work.
 - Water in the fuel tank is very effective. If you pour enough, it'll displace all the fuel at the bottom of the tank, since it is denser than gasoline. How much water do you have to pour in? Let's take the Ford Explore tank as an example. Dimensions are 54.5 x 16.5 x 13 in. So to have 0.5 inches of water covering the bottom of the tank, that requires 54.5 x 16.5 x 0.5 cubic inches of water, or about 450 cubic inches, or 2 US gallons. Even less than that would cause major problems.
 - Cutting wires or hoses would be an effective means of disabling a vehicle. With all the sensors monitoring modern-day cars, cutting wires at random will likely put a vehicle into limp mode and at the very least, will take a long time to repair.
 - Easy access to wires around the wheels, brakes (e.g. brake line and ABS sensors), and low-hanging wiring for the engine. Wiring can also be found under the plastic bumper covers. The rear one would likely be easy to rip off with enough force. Cutting blind spot monitor wiring will put some cars into limp mode or make it appear as though there are transmission issues.
 - long gashes in tire sidewalls will be impossible to repair. Note that many vehicles use run-flats though.
 - shoving a sharp object in through the grille can destroy the radiator.
 - Glass can be broken easily with a sharp object, or from afar with [ninja rocks](#).
 - Ninja rocks can be shot from afar, accurately, with [modified nerf guns](#).
- **Ford Escape (Fifth Gen. 2011-2019)**
 - [Walkaround video](#)
 - [Overall image](#)
 - [Engine image](#)
 - [Chassis and drivetrain schematic](#)
 - [Gas cap with plastic cover removed](#) (can be achieved with crowbar).
 - [Gas cap inside](#)
 - [Underbody protection \(2020 model\)](#)
- **Ford Taurus (Sixth Gen. 2010-2019)**
 - [Walkaround video](#)

- [Overall image](#)
- [Engine image](#)
- [Surveillance Mode \(also available on Explorer\)](#)
- [Gas cap with plastic cover removed](#) (can be achieved with crowbar).
- [Gas cap inside](#)

Tow straps and chains as barriers?

If you wanted to be really effective against vehicles on narrow streets, a tow strap across the road, attached to two solid objects, would stop any vehicle while being extremely dangerous to cut or remove if tensioned. A 3"x30" strap would be the minimum choice. You could easily fit one in a backpack and deploy it quickly.

[This is a good example of what I mean.](#) The only difference here is that the strap is sandwiched in a metal tube, but the strap itself is the part that absorbs the kinetic energy of the vehicle. By attaching it to other heavy objects on the side of the road, anything that attempts to ram is effectively stopped or destroyed as the strap absorbs the impact.

If you REALLY, absolutely, positively wanted to stop people from dismantling your barrier by hand; use two lengths of minimum 3/8" [Grade 70 chain with slip hooks](#) and tension the two pieces together with a [come-along](#) before linking the ends with a [bow shackle](#) or the slip hooks, if that works. Not as strong as a tow strap, but you would [absolutely be maimed, likely killed, by cutting one under tension and standing nearby.](#) The only safe way to remove it would be to untension it with a come-along or turnbuckle, which would take a long time.

Fishing nets with barbs to entrap or destroy vehicles?

One should also consider using spiked nets:

<https://www.dailymail.co.uk/news/article-4870602/Police-reveal-spiked-net-stop-vehicle-terror-attacks.html>

<https://www.youtube.com/watch?v=R77cNfruMsc>

They wrap around the axles and immobilize the vehicle forcing the users to abandon it. They also deflate the tires. These could likely be made from fishing nets with caltrops attached. The caltrops themselves could be made from steel wire, [similar to how barbed wire barbs are made.](#)