A Demonstrator's Guide to Helmets

Everything You Need to Know

CrimethInc.

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Contents

As violence intensifies from police, federal officers, and fascist groups around the country, it's important to think about how to protect ourselves. No one should have to choose between preserving bodily safety and organizing in our communities—yet batons, impact munitions, and street attacks are designed to force us to decide between the two. It's not a question of whether you employ confrontational tactics—nowadays, anyone who is in a protest situation could become a target. By taking the proper precautions, we can mitigate the risks while continuing to show up for each other. This guide explores a wide range of protective headgear, detailing the advantages and disadvantages of each, so you can pick out what's best for you. The life you save could be your own.

This is the first in a series of protest safety guides that we will be publishing over the coming days. Contributors have spent countless hours gathering experience, data, and anecdotes to prepare this series. We will be updating this document on an ongoing basis as more information comes in. If you can offer suggestions or corrections, please contact us. For more information about how to choose personal protective equipment such as ear protection for protests, you can start with the article published by the Indigenous Anarchist Federation.

Executive Summary

If you don't have time to read the entire text, here's what you need to know:

If you anticipate that no one else will be wearing a helmet, wear something concealable or inconspicuous—a bump cap baseball cap, a low-profile skate helmet under a hood, or a bicycle helmet—so as not to make yourself a target. If you anticipate that many people will be wearing helmets, wear the best helmet you can get your hands on, such as a tactical bump helmet or ballistic helmet.

Some Options

High-end: Level IIIA ballistic helmet, such as the $500 Hard-Headed Veterans ATE, or a discount Chinese-made model that is still tested to a high standard, such as the $200 LongFri model.

Cheaper tactical: Either a name brand "bump helmet" for $100–200, or an airsoft helmet that looks like one for $40. If you go with the latter, swap out the pads for real pads, which cost another $40, and do not expect it to provide nearly as much protection.

Dirt-cheap option: Find the cheapest skate helmet you can that still advertises meeting various certifications. It should be about $20.

Low-key option: $20. Buy a "bump cap" (not a "bump helmet")—a bit of a hardhat built into a baseball cap.

In an emergency: A half or three-quarters motorcycle helmet, a half-mask hockey helmet. A lacrosse helmet with the facemask removed. Any other helmet you can find.

Why Helmets?

Our heads are fragile. Police know this—so they aim for them. Fascists do the same. It is smart to wear a helmet in a lot of protest situations.

As with all gear, it's always important to think in terms of tradeoffs. If you're the only person with a helmet, you might attract more attention to yourself than you want. If no one else will be wearing a helmet, consider wearing a concealable helmet. If you anticipate that everyone will be wearing helmets, make sure you're wearing a good one.

Mobility, visibility, and flexibility are important—whether we're talking about a particular item of gear or our movements as a whole. The police will almost always have more access to resources than we do; it's usually a mistake to get drawn into head-to-head confrontations under static conditions. Their weaknesses are that they tend to react slowly to new information and that they often lack motivation and creativity. When choosing equipment and tactics, we should always aim to stay fluid and mobile, being careful not to weigh ourselves down attempting to hold a fixed position.

All that said—you can't really go wrong wearing a helmet to a protest. Cheap bicycle helmets have saved people's lives this year. If you don't want to spend any money, then wear whatever you have available. A skate helmet is great. A bicycle helmet is better than nothing. A full-face motorcycle or motocross helmet is expensive, limits your vision and hearing, and presents a variety of other downsides—but if you catch a tear gas canister to the brow, you'll be glad you wore it.

There is no helmet that will protect you entirely from blows or shots to the head. There is no "concussion-proof" helmet available to football players: it would require a tremendous amount of foam. Like all protective gear, all a helmet can do is mitigate certain risks.

People tend to fixate on the shell of a helmet—assuming, for example, that since a ballistic shell that can withstand gunfire, it will protect your head better than a hockey helmet. But a ballistic shell is only intended to protect your head from gunfire—it might not be as effective at protecting your head from a hockey puck. And a hockey helmet might not protect your head in a road accident the way a bike helmet could.

With helmets, both the shell and the padding matter in roughly equal proportions. If a projectile penetrates the shell, the padding won't do much. Yet the padding is what protects against blunt impact, presuming the shell itself is not penetrated.

Ballistics is a complicated field. We spoke at length with an engineer in the process of preparing this series. The long and short of it is: it is very hard for a layperson to predict which objects will penetrate which surfaces and how much force will be transferred. We can learn the kinetic energy (in joules) of various less lethal munitions and we can learn the standards that various helmets are certified according to—but it is difficult to draw reliable conclusions on the basis of this information. In short, non-ballistic helmets are certified to resist substantially less kinetic energy than might be imparted by a less-lethal weapon.

Helmets mitigate risk. They don't nullify it.

Fitting a Helmet

Helmets come in a variety of sizes and each manufacturer employs different sizing patterns. It's worth getting a tape measure to measure the circumference of your head before shopping for a helmet, especially if you're buying it online. If you don't have a tape measure, use a piece of string, then measure the length of the string.

A lot of helmets are adjustable—you can fit them either by adding or removing padding or by tightening or loosening a headband. Hard hats in particular are eminently adjustable, though we don't particularly recommend them. Regardless, it's best to buy a helmet that fits you well. If you're between two sizes, you should probably go with the larger size; but a helmet that is too loose can fall into the wrong position at inconvenient moments, even blocking your vision. A helmet that is too loose will likely absorb less impact, because the force of a blow can push the side of the helmet into your head, essentially making the helmet itself impact you.

With padded helmets, you want it tight enough that it takes a bit of effort to get it on, but not so tight that it feels confining. To test the fit of a tactical helmet, shake your head from side to side with some force without the chinstrap on: the helmet should not move.

Types of Helmets

For the purposes of this article, we'll divide helmets into three basic categories based on how they're designed. There are **suspension helmets,** which use a hard layer on the outside and a suspension system inside to absorb impact. This category includes most construction hard hats, older military helmets, and some climbing helmets. There are **crash helmets,** which rely on crushable foam, usually paired with a hard layer. These are generally designed with the assumption that they will be destroyed on impact. Bicycle, skate, ski, motocross, and motorcycle helmets are all crash helmets. And finally, there are **padded helmets,** which use a hard outer shell and non-crushable padding inside to mitigate impact. This includes modern military and tactical helmets as well as some sports helmets, including football, lacrosse, and hockey helmets.

Crash helmets generally provide the most protection from a single impact, but they lose their protective capacity after one blow. Suspension helmets are light, cheap, and durable, but are often not rated for side impact and generally less protective overall. We recommend padded helmets, which are often designed for repeated blows. There's a reason soldiers wear them.

Suspension Helmets

Suspension helmets have the advantage of being cheap and of allowing air to flow over the head, but are generally less effective against blunt impacts. We don't recommend them.

Hard Hats

First, and most common, is the hard hat. Most hard hats are good for protecting your head from falling objects, but not as useful for mitigating other threats. Many lack even a chinstrap, which makes them unreliable in situations that could involve running, falling, or grappling. Worksites are increasingly replacing hard hats with "safety helmets," some of which use suspension systems,

some of which use crushable foam or padding for the sides, some of which use a combination. If you're going to use a hard hat, look for a "Type II" helmet, which includes non-crushable padding on the sides and is rated for side impact as well as top impact. These are much less common.

Hard hats have a very "civilian" look, which can be useful for optics.

Climbing Helmets

Climbing helmets are similar to "Type II" hard hats in that they are rated for side impact as well as top impact. They also sit closer to the head than a hard hat. Generally, they are more comfortable and offer better mobility.

Anecdotally, we hear that climbing helmets that are tested to the European ASTM F1492 standard offer effective protection against baton blows.

Some climbing helmets rely on suspension alone, while others use a hybrid system that incorporates crushable foam. As far as suspension helmets go, climbing helmets seem like a good choice.

Antique Military Helmets

Unfortunately, we cannot recommend the medieval helmet or a steel 20th century war helmet for protests, though some of us might wear ours anyway. Most medieval helmets and early modern military helmets use a leather suspension system, called a helmet liner, to hold the hard shell away from the head.

The Society for Creative Anachronism (SCA), who fight with steel swords and armor for sport, requires steel helmets to be at least 16 gauge or thicker steel; many SCA fighters prefer 14 gauge steel. Anything thinner might be considered "decorative" only. We have not tested steel with impact munitions, and the deformation of a helmet could be very dangerous to the wearer if, you know, the helmet crushes your head. Many re-enactment fighters, rather than using traditional suspension systems, build foam liners from ½" or thicker closed-cell foam (yoga mat foam is thought of highly for this). Others use modern military helmet padding. To the best of our knowledge, a human arm with a steel bar (like a sword) delivers substantially less force than the more powerful impact munitions used by police, so we cannot recommend medieval helmets in good conscience until we've tested them properly.

Some people wear surplus early modern helmets, which are plentiful. Most of these are not rated against bullets, but were designed to protect soldiers from accidents and shrapnel. A few have a Kevlar liner and approach a ballistic-rated degree of protection. We're curious what would happen if one were to replace the suspension liner with modern military padding and a chinstrap harness, but we have not spoken with anyone who has tried this yet.

Crash Helmets

There are more types of crash helmets than we can easily cover here. Crash helmets tend to be the most readily available helmets and they usually look "civilian" and unthreatening. Someone in a bicycle helmet can look like they were on their way home from work when they were swept up into a crowd. Also, some crash helmets can be concealed under a hood. For these reasons, as well as their relatively cheap prices, we recommend them—especially skateboard and snowboarding helmets.

Crash helmets, unlike suspension helmets or padded helmets, are less likely to be effective when purchased used. Fortunately, they tend to be very cheap new.

Bicycle Helmets

Bicycle helmets are probably the most inconspicuous helmets you can wear apart from something completely concealed like a bump cap. They're also dirt cheap. Those are their main two advantages. The disadvantage is that bicycle helmets are substantially less penetration-resistant than many other crash helmets, as the plastic shell is basically an afterthought. The plastic shell is so thin, in fact, that some of us have seen police batons shatter them entirely, sending shards flying that have cut people.

In the United States, bicycle helmets—unlike skate helmets and other sport helmets —are required to meet certifications using the CPSC standard. However, they are only required to survive a single impact. In short, they're designed to be disposable.

One study we read indicated that $10–20 bicycle helmets meet the certification standards (on the basis of various impact tests) roughly as well as $100–200 helmets.

We've seen an FN303 pellet (an impact .68" airgun pellet) embedded deep in the foam of a bike helmet, implying that it sufficed to stop the pellet.

Skate and Snowboard Helmets

Skate helmets cover more of the head than bike helmets, since they aren't designed to be aerodynamic. Snowboard helmets are functionally the same as skate helmets; the chief difference is simply that they lack ventilation holes entirely, as they are designed to retain heat.

Skate helmets, unlike bicycle helmets, require no certification to be sold as such. Some companies apparently certify only certain sizes of the helmet, because they use different amounts of padding in different sizes. If they *are* certified, these helmets are certified to ASTM F1492 standards, meeting a higher standard than bicycle helmets in that they are rated to survive multiple impacts.

Some snowboarding helmets come in with a built-in comms systems, which could be useful to a protestor.

Skate helmets are one of the best cheap options for helmets. Be careful when buying skateboard helmets online, as the listings are sometimes for children's helmets in children's sizes.

Aaron Cantu was wearing a helmet of this kind when a police officer in Portland, Oregon intentionally fired an aerial flash-bang grenade directly at his head in 2018. Police are supposed to fire that kind of flash-bang into the air, to explode above the crowd—though in practice, they routinely aim them at our heads. The grenade penetrated Aaron's helmet and became lodged in it, shattering his skull. He survived—and credits the helmet with saving his life.

Motorcycle Helmets

Motorcycle helmets are designed to survive much higher levels of impact than other crash helmets. They're also more expensive. If you're buying something specifically for protests, they aren't necessarily the best choice. If you have one around, however, it's a helmet—a very good helmet. And if you ride a motorcycle or scooter to the demonstration, then you already have a helmet with you.

Full-face motorcycle and motocross helmets offer much better protection for a motorcycle accident, but this does not translate well to protest situations. They're cumbersome, they limit visibility, and they make it much more difficult to wear respirators or ballistic goggles.

Three-quarter (open-faced) helmets and half helmets are much more useful for protest situations, as they are more compatible with masks and goggles. Half helmets are substantially cheaper than other styles.

When purchasing motorcycle helmets, our friends at Indigenous Anarchist Federation-Federación Anarquista Indígena (IAC-FAI) remind us in their own article about protest gear that

> "DOT certification is not worth the ink its printed with since it is a 'self-certified' safety standard. For real safety, especially ballistic protection from the visor, be sure to get a helmet that meets ECE or Snell safety standards."

Equestrian Helmets

Equestrian helmets are similar to skate helmets, but those that are certified to the ASTM standard F1163 are also tested against the sharp impact of a horse hoof. This is good for protestors.

Padded Helmets

Suspension and crash helmets are just-in-case helmets, but padded helmets are worn by people who expect to be hit in the head: athletes, soldiers, cops, and, increasingly, well-dressed demonstrators. Let's separate this category into two sub-categories: sports helmets and tactical helmets.

Sports Helmets

More than any other category of helmet, sports helmets are designed specifically to protect against blunt impact; an incredible amount of engineering has been invested in this lately. Sports helmets are also the most readily available helmets on the secondhand market. In some cases, you'll have to remove the facemask so it doesn't interfere with your ability to wear masks and goggles—and so it won't offer an opponent an easy opportunity to grab hold of your face and control your head. Other sports helmets are designed in such a way that they are not compatible with gas masks and goggles at all.

Make sure the padding of your sports helmet is in good shape.

Hockey Helmets

Hockey helmets are designed to protect against fast moving hockey pucks—which are a lot like the impact weapons used by police. Half-helmets are preferable, without a chin bar or face mask. Hockey and lacrosse helmets are two common and effective protest helmets.

Lacrosse Helmets

Lacrosse helmets are a lot like hockey helmets, but they are lighter and offer good ventilation as well as good peripheral vision. Although you'll probably have to remove the facemask and chin bar, lacrosse helmets are a solid choice.

Whitewater Helmets

According to whitewater rafters we've spoken to, whitewater helmets are similar to other padded sports helmets, rather than to crash helmets. Although we lack direct experience with them, it appears they would serve well for protests.

Football Helmets

Football helmets are specifically designed to protect the head from repeated blunt impact. Some football helmets employ a two-shell system, utilizing what one company calls a "shock bonnet" in which plastic shock absorbers between the inner and outer shell absorb the impact. Apparently, this dramatically improves the protection these helmets offer against concussions. However, it doesn't appear that this technology has been widely adopted yet.

Batting Helmets

Worn in baseball, batting helmets are cheap and strong. Traditional models are designed to survive baseball impacts of 70 mph, while newer models are rated up to 90 or 100 mph. The official helmet of Major League Baseball—the Rawlings S100 Pro Comp—uses this newer design, though some players complain it offers less mobility than the older models. We've yet to test how batting helmets fit with respirators—and many don't use any kind of chinstrap, so they can easily fall off or be removed in a scuffle.

Tactical helmets

Tactical helmets are designed for combat. That's why cops use them: police constitute an occupying military force. Tactical helmets are intended to protect soldiers and other professional fighters from the hazards of their job, such as bullets and shrapnel. Many of them are also designed to stick gadgets onto. Gadgets are useful: in particular, activists might be interested in being able to mount ear protection or visors. Journalists might be interested in the ability to attach cameras, though we cannot in good conscience recommend that anyone film protests in such a way as might incriminate fellow protestors.

A note on buying tactical helmets securely—a lot of tactical gear manufacturers are explicitly politically opposed to various social movements, and many donate money to police organizations. While sometimes it's necessary to let capitalists sell us the rope to hang them, it's worth considering where your money is going—and what information you are giving to a manufacturer when you purchase from them. Consider shipping your purchase to a post office box at the very least.

Also, it is illegal in the US for those convicted of violent felonies to own body armor designed to protect against bullets. Some exceptions can be found through workplace requirements. This law likely only applies to ballistic helmets.

Tactical helmets can be distinguished by their ballistic rating, their style, and whether or not they are designed to carry gear. They are available in a wide range of prices and combinations of features. For that reason, we'll discuss the different categories of features that can be mixed and matched, rather than mutually exclusive types of tactical helmets.

Ballistics

There are four ratings of tactical helmets available. At the lowest end are airsoft helmets, which are often less than $50. These are generally not certified at all; functionally, they are just plastic replicas of higher-quality helmets. The next step up is bump helmets (which are distinct from bump caps). Bump helmets are tactical helmets that are not rated to protect against gunfire, though they are often well-made and certified to decent safety helmet standards. They are half the weight of ballistic helmets and substantially cheaper. In the military, they are usually only used by people who want the ability to hold gear like night vision goggles without the weight of a ballistic helmet. First responder helmets are often bump helmets in bright colors.

Then there are ballistic helmets. Nearly all military ballistic helmets are rated to NIJ IIIA—which is to say, they are rated to protect against handguns but not rifles. Finally, there are some helmets that claim to protect from rifle rounds. Most of these helmets only protect from certain rifle rounds at long distance. Others, however, can use a special insert to increase the level of protection they offer against rifles. This also increases a helmet's weight. Ballistic helmets are generally made of aramid fibers like Kevlar.

The best kind of helmet available to a demonstrator for confronting almost any impact threat model is a ballistic tactical helmet. However, the cheapest ones start new at $200, and most well-reviewed models are $500 or more. If bump helmets, or even airsoft helmets, are able to withstand less lethal munitions without penetration, then with impact padding, they are the next best thing for a fraction of the price. However, we have not tested this ourselves.

Styles

We will focus on US models of ballistic helmet, because these are what are most readily available here and most manufacturers copy them. There are numerous styles for numerous purposes, but the most common include:

PAGST helmets are a style of ballistic helmet that has been largely phased out since 2001. Soldiers complained that the suspension system and pads were inadequate and that the strap worked poorly. The brow also limited visibility, and the nape protection extends low enough to interfere with shooting from a prone position. It would absolutely be worth wearing a PAGST helmet if you find one cheap, but if you're shelling out real money to buy a ballistic helmet, don't settle for a PAGST helmet.

MICH/ACH helmets replaced the PAGST model. The ACH is a more modern version of the MICH, but the helmets are very similar. Compared with the PAGST, it has a better chinstrap and relies on padding rather than suspension. It's considered to offer superior protection against blunt impact. Now **ECH** helmets are replacing the ACH; they have a very similar design, but they

are made of a lighter-weight material that some people consider slightly weaker, ballistically. This style of helmet has "ear bumps" that permit the user to wear headphones inside it, although the fit is not always perfect.

FAST/ATE/High Cut helmets are built similarly to MICH/ACH helmets but are cut above the ear (ATE) instead of having ear bumps. These weigh less, protect less, and allow the user to wear rail-mounted ear protection. Given the choice, this might be the style best suited to protest situations, particularly if you might need to wear ear protection. A "bump" model, rather than a ballistic model, weighs half as much and provides as much impact resistance, though less protection from bullets. Older models of this style of helmet, such as you might find on the surplus market, are sometimes called CVC helmets.

Side Rails and Shroud

Some ballistic helmets (sometimes described as "shell only") are plain helmets without mounting systems, but most tactical helmets are distinguished by the various mounting options built into them—usually, side rails and a shroud. Surplus helmets, particularly older helmets, are much cheaper when they don't come with rails and a shroud. These can be attached aftermarket, but it's a bit of an undertaking.

The "shroud" is a rectangle on the forehead of the helmet that is designed to mount night vision goggles. In the civilian market, most people use this spot to mount GoPro cameras. The shroud is a fairly universal mounting system, although some cheaper helmets are poorly made and may not lock as tightly with accessories. The side rails usually run above and sometimes behind the ear and are used to mount other devices. They can hold visors, ear protection/comms devices, flashlights, cameras, or anything else you desire. Just as with the rails on rifles, not all helmets use the same standards for the side rails; there's an entire industry of people selling adaptors to translate between all the different rail standards. If you go for rails, make sure your accessories fit your rails.

The primary reason you might want side rails for a protest situation would be to mount noise-gated earmuffs. These headphones muffle loud sounds (such as gunshots, flash-bangs, LRADs, fireworks, and liberals with megaphones) but amplify quiet sounds.

Still, most helmets (not just ATE helmets) are designed to accommodate earmuffs like those underneath the helmet—which is less comfortable, but can be substantially cheaper.

If you wear anything heavy on the front of a tactical helmet, such as night vision goggles, you might need to wear something as a counterweight on the back. Soldiers sometimes store extra batteries there for this purpose.

Padding

The strongest shell in the world won't protect your head from blunt impact without good padding. Many helmets, including some military-issue helmets, come with inadequate padding. Padding serves two purposes: impact resistance and establishing a tight yet comfortable fit. Both are important. To our knowledge, there is no single foam that provides both. Good pads are multilayered.

Pads are generally foam encased in fabric. Sometimes there is plastic between the fabric and the foam to keep sweat from soaking the pads—this is likely an important feature for chemical

weapon exposure as well. Some pads incorporate both types of foam (impact and comfort) in multiple layers within a single pad, while other padding systems use separate pads, which makes the helmet more customizable but also demands more work. In a multiple-layer pad system, it's important to use both layers everywhere there is foam.

Pads are largely interchangeable between all types of tactical helmets, as all use hook-and-loop attachments and are designed to be customized by the wearer to fit their unique head shape.

Good pads can be found reasonably cheap (approximately $40). Any reputable manufacturer should be proud to announce their impact resistance certifications.

Surplus

You can purchase surplus helmets on ebay.com or via a variety of surplus sites. A used helmet is better than no helmet, but the ballistic fibers of helmets break down from wear and tear as well as exposure to sunlight, and you have no way to ascertain where the helmet has been. Still, surplus helmets are substantially cheaper. Some models in some sizes can be found for as little as $50, although prices closer to $200 are the norm.

Chinese Imports

Unfortunately, forums that discuss the efficacy of various ballistic helmets tend to be dominated by US nationalists and gear snobs, which makes it hard to identify honest reviews of cheap equipment, especially foreign-made options. Yet the cheapest source for new, ballistic-rated helmets (especially helmets with all the bells and whistles) is China. Many manufacturers claim that they offer US quality at China prices, and we've found that "cheap" Chinese "knockoffs" often perform similarly to American models. We don't currently have the resources to test these claims about Chinese ballistic helmets.

It's likely that helmets that are ballistically rated will stop handgun rounds, as they claim. The primary argument we've seen online is about whether the shell will deform upon impact enough to injure or kill the person wearing the helmet. We haven't been able to reliably source that information yet. In any case, it's never a good idea to get shot in the head with live ammunition. Even if the bullet does not penetrate and the shell doesn't deform, the blunt force alone can be enough to injure or kill.

At least one predominant ballistic helmet manufacturer, Hard-Headed Veterans, has their helmets manufactured in China.

> "My friend lost an eye when he was in high school. A cop shot him with a rubber bullet. A couple years later, we were participating in a new round of protests against police violence, and people were getting seriously injured at every demonstration. We discussed it and concluded that, sure, maybe the police would target us more if

we protected ourselves as individuals, but if we all protect ourselves, we would all be better off. My friend brought a shopping cart full of helmets to the next demonstration and made a speech about how important it was for everyone to wear one."

"Since then, every couple demonstrations, someone brings a bunch of helmets to give out—all different sizes, to provide for everyone, since, for instance, I have to wear a child's helmet for it to fit right. That helped to normalize wearing them."

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