# Handheld Impact Weapon

Version 1.0 · Current · October 2026 · Codebook variable: `I_Baton`

## Definition

A handheld impact weapon is a rigid, expandable, or side-handled instrument used by a police officer to strike, block, manipulate, or otherwise physically control a person through direct mechanical force. This category includes collapsible or expandable batons, straight batons or nightsticks, PR-24 or side-handle batons, ASP-type devices, and comparable police impact instruments. It excludes launched kinetic-impact projectiles, improvised striking objects, and empty-hand strikes.

This definition corresponds with the research dataset, where `I_Baton` is coded when an officer uses an expandable, straight, or side-handle baton to deliver a strike, block, joint-control technique, or other physical application against the decedent. Merely drawing or holding the weapon without contact does not qualify.

## How It Is Designed to Work

Handheld impact weapons operate through blunt-force mechanical energy. Depending on the technique and target area, the intended effects may include pain sufficient to interrupt behaviour, temporary motor dysfunction, disruption of balance or movement, mechanical control of an extremity, creation of distance between an officer and an assailant, or incapacitation sufficient to permit restraint. Unlike a conducted-energy weapon or chemical irritant, the effect is produced principally through physical tissue deformation and blunt trauma. That mechanism makes effectiveness and injury closely related: greater delivered energy may increase the likelihood of stopping behaviour while simultaneously increasing the probability and severity of injury.

The resulting injuries can include bruising, hematoma, laceration, and fracture. Forensic literature has documented recognizable patterned blunt-force injuries from expandable batons.

## Evidence of Effectiveness

### Overall assessment

Evidence strength: Moderate-to-low for effectiveness; moderate for injury risk.

The evidence base is weaker than might be expected for such a longstanding police weapon. Few strong studies evaluate the baton as the primary intervention and report a clean success/failure rate. Most contemporary evidence comes from larger observational studies comparing multiple police force modalities, and this means the literature answers how often people are injured when batons are used more reliably than it answers how often a baton successfully resolves an encounter without escalation. This distinction should be retained throughout the evidence library.

### Operational effectiveness

There is evidence that handheld impact weapons can overcome physical resistance and permit officers to gain control. However, modern comparative studies do not demonstrate a clear advantage over other intermediate-force options. Jenkinson, Neeson, and Bleetman [(Jenkinson et al., 2006)] examined British police use-of-force data while assessing the potential introduction of electronic weapons and found that baton use was associated with greater officer injury than conducted-energy weapon deployment in the data examined. The study is particularly useful because it comes from England and Wales, where routine patrol officers generally operate in a policing environment less dependent on firearms.

The larger U.S. observational literature similarly suggests that alternatives such as conducted-energy weapons and OC spray can reduce injury compared with force encounters involving more direct physical force. MacDonald, Kaminski, and Smith [(MacDonald et al., 2009)] analyzed 24,380 use-of-force incidents from 12 police departments; although their principal analysis concerned CEWs and OC spray, the broader force data provide important comparative evidence that weapon choice materially affects injury outcomes. Smith and colleagues [(Smith et al., 2007)] examined 1,645 use-of-force incidents from two law-enforcement agencies and controlled statistically for force, resistance, and other encounter characteristics, again indicating that force modalities do not carry equivalent injury risks.

### What is missing

The literature does not currently provide a reliable generalizable figure such as "a baton successfully incapacitates a resisting person in X% of deployments," nor is there strong evidence establishing how frequently baton deployment prevents subsequent CEW, firearm, K9, or other higher-force use. This is a significant research limitation rather than evidence that the device is ineffective.

## Injury and Safety Evidence

### Comparative injury risk

The strongest recent synthesis is [(Nielsen et al., 2025)], which reviewed 19 peer-reviewed studies of real-world police force involving CEWs, OC spray, physical force, batons, and police canines. Across the studies reporting baton outcomes, subject-injury rates ranged from 3.8% to 80%, with a calculated weighted injury rate of approximately 30.4% across all qualifying studies and 40.7% among studies the reviewers rated as higher quality. The authors cautioned that differences in injury definitions, police practice, and case characteristics make these values unsuitable as precise probabilities for an individual deployment. The important comparative finding was more consistent: baton use generally carried greater injury risk than OC spray and

appeared to carry greater injury risk than conducted-energy weapons, making the baton difficult to characterize as a particularly low-risk intervention simply because it is classified as “less lethal.”

### Significant injury

A prospective multicentre study by Bozeman et al. (Bozeman et al., 2018) examined use-of-force incidents at three police agencies and had physicians evaluate injury severity, demonstrating that significant injury from police force is uncommon overall but varies substantially according to force modality and encounter characteristics. For handheld impact weapons specifically, blunt trauma creates plausible risks of fractures, substantial soft-tissue injury, lacerations, neurovascular injury, internal-organ injury, traumatic brain injury, and potentially fatal head or neck injury. A forensic case report by Armstrong (Armstrong, 2005) documented characteristic patterned injuries produced by an expandable baton and demonstrates the capacity of the instrument to produce identifiable blunt-force trauma.

### Anatomical location matters

This is probably the single most important safety principle for this intervention. A strike directed toward a large muscle mass of an extremity does not carry the same foreseeable risk as a strike to the head, neck, throat, spine, chest, or other vulnerable anatomical structure.

U.S. appellate law recognizes this difference explicitly. The Ninth Circuit has characterized baton force as intermediate force but has also recognized that a baton blow to the head can create a substantial risk of death or serious bodily injury and therefore potentially constitute deadly force depending on the circumstances. This distinction is also consistent with the medical mechanism: the instrument itself does not have a single inherent injury level, and target area, delivered energy, repetition, subject movement, and underlying vulnerability determine much of the actual risk.

## When Its Use May Be Appropriate

The scientific literature does not prescribe a universally valid police policy. Nevertheless, combining the empirical evidence with U.S. excessive-force jurisprudence supports several broad propositions. A handheld impact weapon is most defensible where an officer faces active physical resistance, assaultive behaviour, or an immediate threat that requires rapid physical control, and where the level and location of force used are proportionate to that threat. Potentially appropriate circumstances include defending an officer or third party against an ongoing physical assault, overcoming significant active resistance that cannot reasonably be controlled through lower-risk means, creating sufficient interruption or motor dysfunction to gain control, preventing a person from obtaining or using a weapon, or circumstances where hands-on grappling would expose officers or the subject to greater foreseeable risk.

The evidence should not be interpreted as establishing that baton use is preferable whenever a person resists. Its comparative injury rate argues for assessing whether an intervention with a lower expected injury burden could reasonably accomplish the same objective.

## When Its Use May Be Inappropriate

The evidence and case law are substantially clearer about circumstances in which baton use becomes difficult to justify.

### Non-threatening or minimally resistant individuals

Intermediate force is difficult to justify against someone who presents little or no immediate threat. In *Young v. County of Los Angeles*, the Ninth Circuit held that pepper spray and baton strikes constituted significant intermediate force and concluded that such force could be unreasonable where the underlying offence was minor and the subject posed no safety threat.

### Restrained or controlled subjects

Repeated or gratuitous baton strikes after meaningful resistance has ended are strongly disfavoured under U.S. constitutional law. Federal courts have repeatedly recognized a clearly established right to be free from gratuitous baton strikes when a person is restrained, handcuffed, non-resisting, or otherwise under control.

### Head strikes absent deadly-force justification

A deliberate baton strike to the head presents a qualitatively different risk from a limb strike. Depending on the circumstances and circuit, courts have treated such blows as potentially constituting deadly force because of the substantial risk of serious bodily injury or death. Accordingly, a head strike should not be analyzed merely as an ordinary application of an "intermediate weapon."

### Punitive use

A baton has no legitimate force rationale when used to punish, retaliate, express anger, or inflict additional injury after the governmental objective has already been achieved.

## Relevance to Edged-Weapon Encounters

A handheld impact weapon can be used successfully in some edged-weapon encounters, but its relevance is fundamentally constrained by proximity. Because a baton requires direct physical contact, deployment generally places the officer within or near the range at which the edged weapon itself can cause serious injury.

### Potential role

A baton may contribute to an edged-weapon response by striking an extremity involved in holding or using the weapon, interrupting an assault, creating temporary motor dysfunction, blocking or redirecting movement, creating distance, or assisting physical control after the threat has been partially contained. Its

potential value is greatest when the officer is already in close contact, when disengagement is not immediately possible, or when the baton is used as part of a broader effort to interrupt weapon access or continued assault.

### Conditions favouring deployment

Deployment is more plausible where the officer has no safer way to create separation, the subject's movement is constrained, another officer is available to assist, the weapon-bearing limb is accessible, the officer can direct force toward a lower-risk anatomical target, and the expected benefit of immediate mechanical disruption outweighs the danger of closing or remaining at contact distance.

### Failure consequences

The baton does not provide reliable stand-off incapacitation. A strike may cause pain without stopping movement, miss, strike a non-incapacitating area, fail to disrupt the weapon-bearing limb, or require repeated blows. In an edged-weapon encounter, unsuccessful use may leave the officer inside striking distance while the subject remains capable of cutting or stabbing.

### Risk trade-off

For the subject, the main risk is blunt trauma; injury severity depends heavily on target area, delivered energy, and repetition, and strikes to the head, neck, chest, or other vulnerable anatomy can create a risk of serious bodily injury or death. For the officer, the defining risk is exposure to the edged weapon at close range. Accordingly, baton use may be reasonable as an emergency close-contact intervention or where the threat is already physically constrained, but its general less-lethal classification should not be interpreted as making close-range baton engagement preferable to maintaining safer distance when that option remains available.

## U.S. Legal Considerations

### Fourth Amendment framework

Police use of a handheld impact weapon during an arrest or seizure is generally evaluated under the objective-reasonableness standard of *Graham v. Connor*. The central considerations remain the severity of the suspected offence, whether the person poses an immediate threat to officers or others, and whether the person is actively resisting arrest or attempting to flee. The analysis considers the totality of the circumstances rather than judging force solely by the fact that a baton was used.

### Intermediate force

Federal appellate precedent commonly treats baton strikes as a significant or intermediate level of force rather than minimal force. In *Young v. County of Los Angeles*, 655 F.3d 1156 (9th Cir. 2011), the Ninth Circuit held that baton strikes and pepper spray represented significant intrusion and could be unreasonable against a person suspected of a minor offence who posed no immediate threat.

### Clearly established law and qualified immunity

Qualified-immunity analysis remains highly fact- and circuit-specific, and it would therefore be misleading to state that "baton use" as a general category is either clearly lawful or clearly unlawful. There is, however, substantial longstanding precedent that gratuitous baton strikes against a non-resisting or restrained person can violate clearly established law. The Sixth Circuit has relied on precedent dating at least to *McDowell v. Rogers*, 863 F.2d 1302 (6th Cir. 1988) for the proposition that a gratuitous nightstick blow may cross the constitutional line. Conversely, courts have upheld baton strikes where a person remained actively resistant and posed an immediate physical threat, illustrating why resistance and threat at the moment each strike is delivered matter.

### Legal-library note

The eventual legal companion library should code separately: circuit | year | resistance level | weapon possessed | threat | restraint status | anatomical target | number of strikes | warning | outcome | constitutional violation | qualified immunity. That is likely more informative than simply sorting cases into "baton lawful/unlawful."

## Ethical and Moral Considerations

The principal ethical issue is that a handheld impact weapon deliberately uses physical trauma as its mechanism of control. Its justification therefore depends on whether intentionally inflicting that trauma produces a meaningful reduction in the overall expected harm. A sound ethical analysis asks whether blunt-force trauma was reasonably necessary to prevent a greater harm, and whether the amount of trauma inflicted was proportionate to that objective.

### Proportionality

Because baton use produces a non-trivial probability of injury, it is harder to justify where the governmental interest is minor or the person presents no meaningful threat.

### Necessity

Where another reasonably available intervention offers a similar probability of successful resolution with substantially lower expected injury, that comparison matters ethically even when baton use would technically be lawful.

### Termination of force

Each strike should be understood as a separate application of physical force. The ethical justification for the first strike does not automatically justify subsequent strikes once the person's behaviour changes.

### Anatomical targeting

The foreseeable consequences of intentionally striking the head cannot ethically be equated with targeting a lower-risk extremity. A nominally “less-lethal” weapon can become a potentially lethal intervention when deployed against a vulnerable anatomical target.

### Vulnerability

Age, frailty, mobility impairment, position, location near hard surfaces, and other circumstances can alter foreseeable injury severity. The same physical strike does not impose the same risk on every person.

## Evidence Limitations

Effectiveness is under-measured in the available literature, since most studies record injury rather than whether baton use accomplished its intended tactical objective, and selection bias is substantial because officers tend to use more forceful interventions in more dangerous encounters, meaning that a higher observed injury rate may partly reflect incident seriousness rather than the weapon alone. Injury definitions also vary, with some agencies recording minor redness or bruising as injury while others primarily capture injuries requiring treatment, and baton exposure itself is heterogeneous: a single controlled limb strike and multiple full-force head strikes may appear under the same generic variable despite having radically different risk profiles. Modern evidence is comparatively sparse, and the most recent comparative review concluded that real-world evidence differentiating injury risk among police force modalities remains limited and heterogeneous. For the purposes of this evidence library, baton injury percentages should therefore be treated as comparative indicators, not as precise probabilities applicable to an individual deployment.

## Bottom Line

### Effectiveness

Moderate evidence that handheld impact weapons can facilitate physical control, but weak evidence defining an overall success rate or demonstrating superiority over other less-lethal options.

### Injury

Meaningful injury risk. Contemporary comparative evidence suggests baton use generally produces more subject injury than handheld OC spray and likely more than conducted-energy weapons.

### Serious injury/death

Uncommon but foreseeable, particularly where force is directed at the head, neck, chest, or other vulnerable anatomy, or where repeated strikes are used.

### Risk-benefit assessment

The evidence supports viewing the handheld impact weapon as an intermediate-force option rather than a benign compliance device. Its strongest justification is where blunt-force intervention is proportionate to an immediate physical threat and may prevent escalation to more dangerous force. Its weakest justification is against a non-threatening, restrained, minimally resistant, or already-controlled person.

## Core Peer-Reviewed Evidence

1. Nielsen, M., Munkholm, J., Banner, J., & Wingren, C. J. (2025)

Injury rates following conducted electrical weapons and other less-lethal force modalities in real-life police settings: A comparative literature review.

*Forensic Science, Medicine and Pathology, 21*, 1396–1406.

DOI: 10.1007/s12024-025-01020-9

Priority: Essential / highest-value current synthesis.

Contribution: Reviews 19 real-world studies and directly compares baton, CEW, OC, canine, and physical-force injury rates.

Key finding: Baton exposure was associated with a weighted subject-injury rate of approximately 30.4% across qualifying studies and 40.7% among higher-quality studies; CEW and especially OC generally showed lower injury rates.

Limitation: Substantial heterogeneity prevents interpreting the pooled values as precise causal probabilities.

---

2. MacDonald, J. M., Kaminski, R. J., & Smith, M. R. (2009)

The effect of less-lethal weapons on injuries in police use-of-force events.

*American Journal of Public Health, 99*(12), 2268–2274.

DOI: 10.2105/AJPH.2009.159616

Priority: Essential comparative study.

Contribution: 24,380 use-of-force cases across 12 U.S. police agencies.

Key finding: Force modality materially affected injury risk; CEWs and OC were associated with substantial reductions in suspect injury after adjustment for encounter characteristics.

Relevance to handheld impact weapons: Establishes an important comparator showing that less-lethal force options are not interchangeable in their injury consequences.

Funding: NIJ-supported research.

3. Smith, M. R., Kaminski, R. J., Rojek, J., Alpert, G. P., & Mathis, J. (2007)

The impact of conducted energy devices and other types of force and resistance on officer and suspect injuries.

*Policing: An International Journal, 30*(3), 423–446.

DOI: 10.1108/13639510710778822

Priority: Essential comparative field study.

Contribution: 1,645 police use-of-force incidents from two agencies; multivariable modelling of officer and subject injury.

Key finding: Injury varies substantially by force modality and level of resistance; direct physical tactics tended to carry higher injury risk than several alternative interventions.

Limitation: Observational data cannot fully remove treatment-selection effects.

---

4. Jenkinson, E., Neeson, C., & Bleetman, A. (2006)

The relative risk of police use-of-force options: Evaluating the potential for deployment of electronic weaponry.

*Journal of Clinical Forensic Medicine, 13*(5), 229–241.

DOI: 10.1016/j.jcfm.2005.11.006

Priority: High.

Contribution: UK comparative use-of-force analysis involving baton, CS spray, and electronic weaponry.

Key finding: Baton use carried higher officer-injury rates than M26 CEW deployment in the data examined.

Strength: Particularly useful non-U.S. comparator from a policing environment where routine firearm carriage differs materially from U.S. practice.

Limitation: Some CEW comparison data came from manufacturer field-use information, which should be considered when weighing conclusions.

---

5. Bozeman, W. P., et al. (2018)

Injuries associated with police use of force.

*Journal of Trauma and Acute Care Surgery, 84*(3), 466–472.

DOI: 10.1097/TA.0000000000001783

Priority: High.

Contribution: Prospective multicentre study with physician review of injury severity.

Key value: Provides medically assessed outcomes rather than relying exclusively on police administrative injury classifications.

Limitation: Individual modalities have smaller sample sizes than the overall cohort, limiting precision for baton-specific estimates.

---

6. Armstrong, E. J. (2005)
Distinctive patterned injuries caused by an expandable baton.
*American Journal of Forensic Medicine and Pathology, 26*(2), 186–188.
DOI: 10.1097/01.paf.0000164229.71287.95

Priority: Supporting safety/mechanism paper.

Contribution: Documents characteristic blunt-force injury produced by an expandable baton.

Key value: Useful for explaining mechanism and forensic injury recognition.

Limitation: Case report; cannot estimate injury incidence or effectiveness.

## Evidence Rating

Effectiveness: ★★☆☆☆ to ★★★☆☆
Limited direct outcome evidence.

General injury evidence: ★★★★☆
Multiple real-world comparative studies.

Serious-injury probability: ★★★☆☆
Biological plausibility and documented injuries are strong; absolute incidence remains uncertain.

Mortality evidence: ★★☆☆☆
Fatal injury is biologically and legally recognized as possible, particularly from vulnerable-area strikes, but good denominator-based mortality estimates are lacking.

Comparative evidence: ★★★★☆
Reasonably consistent evidence suggests OC and usually CEW are less injurious than baton use.

Overall confidence: Moderate.

Handheld impact weapons are established intermediate-force tools capable of gaining control through blunt-force pain and mechanical dysfunction. Their effectiveness has not been quantified as rigorously as that of

some newer less-lethal technologies. Available real-world evidence indicates a meaningful probability of injury and suggests that handheld impact weapons are generally more injurious than handheld chemical spray and likely more injurious than conducted-energy weapons. Injury severity is highly dependent on anatomical target and repetition; head strikes can create a substantial risk of serious injury or death and may constitute deadly force. The strongest evidence supports their use where significant active resistance or assaultive behaviour creates a need for immediate physical control, while both empirical risk considerations and U.S. constitutional law weigh strongly against gratuitous, repeated, or vulnerable-area strikes once a person no longer presents a meaningful threat.

## References

Armstrong, E. J. (2005). Distinctive Patterned Injuries Caused by an Expandable Baton. *American Journal of Forensic Medicine & Pathology*, *26*(2), 186–188. https://doi.org/10.1097/01.paf.0000164229.71287.95

Bozeman, W. P., Stopyra, J. P., Klinger, D. A., Martin, B. P., Graham, D. D., Johnson, J. C., . . . Vail, S. J. (2018). Injuries associated with police use of force. *Journal of Trauma and Acute Care Surgery*, *84*(3), 466–472. https://doi.org/10.1097/TA.0000000000001783

Jenkinson, E., Neeson, C., & Bleetman, A. (2006). The relative risk of police use-of-force options: Evaluating the potential for deployment of electronic weaponry. *Journal of Clinical Forensic Medicine*, *13*(5), 229–241. https://doi.org/10.1016/j.jcfm.2005.11.006

MacDonald, J. M., Kaminski, R. J., & Smith, M. R. (2009). The Effect of Less-Lethal Weapons on Injuries in Police Use-of-Force Events. *American Journal of Public Health*, *99*(12), 2268–2274. https://doi.org/10.2105/AJPH.2009.159616

Nielsen, M., Munkholm, J., Banner, J., & Wingren, C. J. (2025). Injury rates following conducted electrical weapons and other less-lethal force modalities in real-life police settings: a comparative literature review. *Forensic Science, Medicine and Pathology*, *21*(3), 1396–1406. https://doi.org/10.1007/s12024-025-01020-9

Smith, M. R., Kaminski, R. J., Rojek, J., Alpert, G. P., & Mathis, J. (2007). The impact of conducted energy devices and other types of force and resistance on officer and suspect injuries. *Policing: An International Journal of Police Strategies & Management*, *30*(3), 423–446. https://doi.org/10.1108/13639510710778822

HOW TO CITE

Edged-Weapon Response Lab. (2026). *Handheld Impact Weapon*. In *EWRL Evidence Library* (Version 1.0). https://droptheknife.org/evidence-base/I_Baton (https://droptheknife.org/evidence-base/I_Baton)