

Equipment Guidance & Recommendations



Maryland Active Assailant
Interdisciplinary Work Group



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Introduction

This document details the considerations first responders may make when securing personal protective equipment (PPE) and medical supplies for active assailant incident response. The information contained herein was compiled through various studies and documents authored by subject matter experts and aims to serve as guidance and recommendations, not as prescriptive requirements for first response entities.

Equipment and Personal Protective Equipment

Individual First Aid Kits (IFAK)

An IFAK is intended for immediate self or buddy life-saving interventions should the individual or their partner be injured. All law enforcement officers (LEOs) and Emergency Medical Services (EMS)/Fire/Rescue personnel should carry an IFAK for all active assailant incidents. Commercial IFAKs are available for purchase or may be assembled by the individual.

At a minimum, IFAKs should contain at least the following:

1. Two (2) Committee on Tactical Combat Casualty Care¹ (CoTCCC) recommended tourniquets for the control of extremity hemorrhage
2. Two (2) Z-fold hemostatic dressings or other suitable material for wound packing
3. One (1) multipurpose trauma dressing (e.g., Israeli bandage, OLAES® bandage, H-bandage, etc.)
4. One (1) roller gauze for general bandaging
5. Two (2) vented chest seals
6. One (1) nasopharyngeal airway with water-soluble lubricant (fitted to carrier)
7. One (1) trauma shear
8. Non-sterile gloves sized to the individual
9. One (1) permanent marker



Figure 1. IFAK Example



Figure 2. IFAK Contents

IFAKs, as well as all other medical equipment below, should be checked monthly and the stock rotated with the daily use stock on EMS units.

¹ The Committee on Tactical Combat Casualty Care (CoTCCC) is the Prehospital arm of the Joint Trauma System for the Department of Defense and provides recommendations on training and equipment in the tactical environment. More information can be found at <https://jts.amedd.army.mil/index.cfm/committees/cotccc>.



Initial Warm Zone Medical Care (IWZMC) Kit

Individual EMS providers entering the warm zone as part of a Rescue Task Force or similar mission should carry equipment enabling them to provide life-saving interventions to multiple patients with a variety of injuries. An IWZMC is intended to rapidly address life-threatening issues that are easily correctable in a dangerous environment for as many victims as possible. The amount and type of equipment must be balanced between providing immediate life-saving interventions to multiple victims and the weight burden of the equipment carried in an austere environment. All EMS/Fire/Rescue apparatus should have adequate IWZMC kits for personnel assigned to that apparatus. As additional fire and EMS units arrive, their IWZMC kits should be collected and used to resupply teams operating within the warm zone.

While we are providing a recommended list, the actual supplies carried by local EMS programs should be consistent with the operational protocols, procedures, and response model selected by those programs and the appropriate certification/licensure levels of the providers. Local jurisdictions may create their own IWZMC kits or purchase commercially available units. At a minimum, IWZMC kits should contain the following:

1. Six to ten (6–10) CoTCCC recommended tourniquets for extremity hemorrhage
2. One (1) CoTCCC recommended junctional tourniquet
3. Four to eight (4-8) hemostatic dressings or other suitable material for wound packing
4. Two (2) 4-inch multipurpose trauma dressings (e.g., Israeli bandage, OLAES® bandage, etc.)
5. Two (2) 6-inch multipurpose trauma dressings (e.g., Israeli bandage, OLAES® bandage, etc.)
6. Four (4) kling or elastic-type bandaging to retain dressings
7. Eight (8) vented chest seals
8. Four (4) needle decompression kits
9. Nasal airways (4–6; assorted sizes) with water-soluble lubricant
10. Non-sterile procedure gloves (assorted sizes)
11. Adhesive tape
12. One (1) trauma shear
13. One (1) permanent marker

Casualty Collection Point (CCP)

Supplies for CCPs should be packaged separately within a single “grab and go” kit that is already prepared for immediate use. The care of patients will be limited to life-saving interventions, so equipment will also be limited. A list of suggested items that may be included in a CCP supply kit appears below. It is difficult to determine the number of casualties one might be required to treat at a CCP. This



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list contains enough equipment to treat approximately 10 patients. This kit may also be used by RTF teams to resupply their IWZMC kits. For CCP care, it is recommended that the kit contain what appears on the list below in order to provide life-saving interventions while reducing unnecessary gear.

1. Ten (10) commercially available tourniquets for extremity hemorrhage
2. Ten (10) hemostatic dressings or other suitable material for wound packing
3. Ten (10) vented chest seals
4. Ten (10) 4-inch multipurpose trauma dressings (e.g., Israeli bandage, OLAES® bandage, etc.)
5. Ten (10) 6-inch multipurpose trauma dressings (e.g., Israeli bandage, OLAES® bandage, etc.)
6. Ten (10) roller gauze
7. Five (5) nasal airway kit
8. One (1) bag-valve-mask
9. One (1) surgical cricothyroidotomy kits
10. 4X4/composite gauze pads
11. Two (2) large trauma pad dressings
12. Two (2) rolled formable splints
13. Four (4) trauma shear
14. Ten (10) needle decompression kits
15. Pain medication consistent with Maryland Medical Protocols and provider's level of certification/licensure per local medical direction
16. Ten (10) rolls of adhesive tape
17. One (1) set of triage marking tapes containing four colors of tape each (black, red, green, and yellow)
18. Five (5) black permanent markers
19. Two (2) stethoscope
20. 1 - Pack (25) Triage Tags



Figure 3. CCP Kit Example



Ballistic

Personal Protective Equipment

Ballistic protection should be provided for all LEOs and for those EMS/Fire/Rescue personnel who are expected to operate in the active assailant environment. While guidance on this topic may vary, it is a best practice for all personnel operating in areas of direct or indirect threat (Hot and Warm Zones) to wear ballistic protection. The National Institute of Justice (NIJ) is continuing research on ballistic protection and is considering the added threat of the improvised explosive device (IED) for civilian responders.

Rescue task force operations are about risk management; identifying, assessing, and implementing measures to mitigate risks to an acceptable level. As in firefighting and rescue operations, factors that help mitigate risks include training, tools, and the use of safety or personal protective equipment (PPE). For RTF operations, PPE consists of a ballistic vest for torso protection, a ballistic helmet, and protective eyewear. Ballistic vests and helmets are designed to meet various levels of protection based on the threat they are meant to defeat.

Table 1. Ballistics Threat Levels from NIJ Standard 0101.06 Table 1 below summarizes body armor levels of protection. When selecting body armor, the level of protection is only one consideration. Weight, coverage, restriction of movement, and effect on performance and endurance must also be considered, particularly in a hostile environment. For example, the U.S. Military's Level IV Improved Outer Tactical Vest (IOTV) complete with front, back, and side hard armor plates along with groin and nape protection can weigh well over 30 pounds depending on size². This may affect endurance, mobility, and overall performance, especially if the responder is not accustomed to wearing body armor on a regular basis. This weight burden is further increased if the responder must carry additional gear to accomplish the mission (e.g., WZMC Kit).

² Additional IOTV details are located on the Olive-Drab website, accessible at https://olive-drab.com/od_soldiers_gear_body_armor_interceptor_iotv.php.



Table 1. Ballistic Threat Levels from NIJ Standard 0101.06

Level	Threat	Velocity	Typical Use
IIA	9mm FMJ 124 gr	373 m/s	Soft, concealable body armor
	.40 FMJ S&W 180 gr	352 m/s	
II	9 mm FMJ 124 gr	398 m/s	Soft, concealable body armor
	.357 Magnum JSP 158 gr	436 m/s	
IIIA	.357 SIG FMJ 125 gr	448 m/s	External soft body armor
	.44 Magnum SJHP 240 gr	436 m/s	
III	7.62 mm FMJ 147 gr	847 m/s	Hard armor plate inserts
IV	.30 caliber armor-piercing 166 gr	878 m/s	Hard armor plate inserts

Selecting body armor requires balancing the competing requirements for mobility, weight, and ballistic protection. The U.S. Army regularly conducts a risk assessment before missions to determine the level of ballistic protection needed for a given mission, especially in areas such as the high-altitude locations of Afghanistan. Given the weight of the IOTV mentioned above, mission commanders will assess the local threat against the mission, terrain, and other conditions to select body armor, in some cases trading both level and area of protection for endurance, agility, and mobility to increase survivability while managing risk.

Similarly, both law enforcement and EMS leadership must select body armor for personnel during RTF operations that balances the potential threat against retaining endurance, agility, and mobility to move tactically with police and provide care to multiple wounded patients under stressful conditions. This begins with assessing the risks to include the probability or likelihood of the responder being exposed to a ballistic event and the most likely ballistic threat to be encountered. Once the threats and their probability are identified, the tasks to be expected of an LEO or EMS provider as part of the RTF must also be identified along with vulnerabilities associated with those tasks. The tasks then must be balanced against the threats and their probability to determine the best balance between protection, performance, and endurance.

Analysis of past active shooter events and identifying trends provides useful data for threat assessments. The Federal Bureau of Investigation (FBI) tracks, analyzes, and reports on active shooter

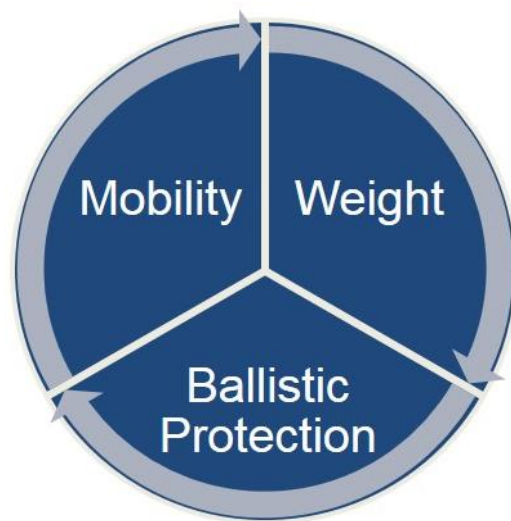


Figure 4. Selecting body armor requires balancing the competing needs for mobility, reduced weight, and ballistic protection



incidents in the United States. In a December 2019 report by the FBI³, the majority of active shooters from 2000–2018 used handguns; however, rifle use still accounted for a significant number of the active shooter events; in some cases, nearly 50% of the incidents. This was also the case in 2019, when the FBI reports that 12 of 28 active shooter incidents involved rifles⁴.

Local multi-agency planning committees should consider the need for adequate protection as they consider how they plan to deploy their personnel and protective equipment in their local standard operating procedures (SOPs). Ballistic protective gear is most effective when fitted to the individual, so jurisdictions should issue ballistic gear individually fitted to those personnel who are likely to respond to active assailant events as well as potentially volatile and violent situations. Officials should take into consideration sizing and fit, safe storage, and the need for replacement of expired or damaged gear when making determinations on who should be issued gear and how it will be distributed.

Ballistic Personal Protective Equipment for EMS/Fire/Rescue Personnel

Most EMS/fire/rescue personnel do not routinely wear ballistic protection. Therefore, issuing EMS/fire/rescue personnel operating in the Warm Zone a minimum of Level IIIA soft ballistic vests is recommended. The soft ballistic vest should provide Level IIIA coverage of the sides as well. Level III hard armor plates for the front and back vital areas may be warranted if the active shooter is known to be using a rifle. Plates can be carried separately and quickly inserted into the front and rear plate pockets if warranted. However, as discussed previously, this decision must be made recognizing the physical performance costs in decreased mobility and endurance.

Some jurisdictions have started requiring EMS/fire/rescue personnel to wear soft body armor as part of their standard uniform. In these cases, plates can be carried separately and inserted into the vest if needed. A simple plate carrier vest with Level III ballistic plates can be quickly donned over either concealable or external soft armor vests for an active assailant response or other high threat or volatile response.

Jurisdictions should consider using lightweight, high-density polyethylene hard armor plates to reduce the weight burden on the wearer. Polyethylene also has the added benefit of being more durable and resisting cracking from rough handling and abuse unlike other materials such as ceramic. In addition, Level IIIA helmets with eye protection for warm zone operations are recommended.

³ Active Shooter Incidents: Topical One-Pagers, 2000 – 2018 encompasses the statistical data of 277 active shooter incidents in the United States over an 18-year timeframe. Additional detail within the report can be accessed here: <https://www.fbi.gov/file-repository/active-shooter-one-page-summaries-2000-2018.pdf/view>.

⁴ The FBI designated 28 shootings as active shooter incidents in 2019. Additional detail can be found here: <https://www.fbi.gov/file-repository/active-shooter-incidents-in-the-us-2019-042820.pdf/view>.



Figure 5. Level IIIA Vest and Helmet



Ballistic Personal Protective Equipment for Law Enforcement Personnel

As a best practice, Maryland LEOs responding to a critical incident, specifically facing the threat of an active shooter situation, should be wearing ballistic protection. Depending on levels of experience and past assignments, an officer's understanding of ballistics capabilities of body armor may vary. Each local law enforcement agency establishes its own policies regarding the routine use of body armor by its officers. It is important to note that this synopsis is specifically geared toward uniformed patrol officers, most of whom ultimately do wear some type of soft vest underneath their uniform shirt and would likely be a first-arriving unit to an active assailant occurrence. It is recommended that officers receive training and guidance related to the capabilities of assigned body armor to best assess how to protect themselves when facing a ballistic threat.

Decades of FBI reviews following police-involved shootings have uncovered multiple trends. One is the fact that most police officers shot in the line of duty were engaged at an extremely close distance and, much of the time, with a small-caliber handgun. A .25, .32, 9 mm, or .40 caliber round is normally utilized in many of the shootings where the officers are the ones receiving gunshot wounds. It is also known that most police-involved shootings occur in low light and last less than 5 seconds in duration.

Another alternative would be Level IIIA NIJ certified armor. This level of ballistic protection is typically worn as soft, concealable-style body armor under a police officer's uniform shirt. Another common application of Level IIIA body armor would be in a heavy raid vest for special operations units. Most Special Weapons and Tactics (SWAT) teams across the country are operating with a large style Level IIIA heavy vest. In addition to maximum coverage, these ballistic vests have a slot in the front and a slot in the back where a Level III or Level IV plate may be inserted for added protection against rifle fire. Despite the fact that a Level III will defend against most rifle rounds, it is still important to remember that there are some exceptions. Some green tip/5.56mm ammunition, for example, may still penetrate a



Level III plate. Level IV body armor is oftentimes too expensive and too heavy for operators to wear on a critical incident but does provide added resistance against some armor-piercing rounds.

SWAT teams are often comprised of representatives from different departments within a jurisdiction and may receive varying types of body armor based on what is available from their home department. Many SWAT teams utilize a Level IIIA vest with a Level III drop-in plate carrier type insert. It is suggested that when responding to an active assailant situation, law enforcement personnel wear what they normally wear for their daily tour of duty. For example, an officer working patrol who is currently wearing soft concealable Level IIIA body armor would be expected to wear that when they are responding to an active assailant incident.

When responding to an active assailant incident, rapid deployment is critical. Once officers arrive on the scene, they must respond and engage with the threat as soon as possible. It is an anomaly for law enforcement to arrive while gunfire is still occurring, and valuable time should not be lost obtaining additional gear, such as ballistic vests and plate carriers. The “Priority of Life Scale” described in the Texas State University’s Advanced Law Enforcement Rapid Response Training (ALERRT), Terrorism Response Tactics Active Shooter Level 1 training acknowledges that first responders are often required to place themselves in harm’s way during an active assailant situation to save the innocent⁵. With this in mind, an officer should already be wearing some type of Level II or Level IIIA body armor upon arrival and respond accordingly.

While officers should respond immediately to this type of threat regardless of their level of ballistic protection, fire/EMS/rescue personnel may have significantly more time to put on (and deploy with) additional protection. Predesignated RTF staging areas may afford fire/EMS/rescue personnel time to gear-up prior to being deployed into a potentially “warm zone” with police providing security.

Communications

Jurisdictions should provide all personnel operating in hot or warm zones portable radios with tactical communication devices (e.g., earbuds) that provide the ability to communicate discreetly so they will be aware of the evolving response without broadcasting their location due to radio “noise.”

Conclusion

All first response entities should acquaint themselves with the suggested actions and equipment noted in this document and the referenced sources when considering the appropriate PPE and medical equipment for active assailant incident response. Additionally, first response entities should review pertinent policies and regulations specific to their mission area (i.e., law enforcement versus fire versus EMS) and jurisdiction for additional guidance or requirements.

⁵ Terrorism Response Tactics Active Shooter Level 1 v.5.3, Advanced Law Enforcement Rapid Response Training (ALERRT), Texas State University, 2011. Training is available through Texas State University for additional information.