MED-TAC INTERNATIONAL

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The Trauma Brief

Doctrine, decision logic, and the kit that matches your mission.

A reference for the people who answer the call when seconds matter and a real plan separates outcomes.

THIRD EDITION . CURRENT TO TCCC GUIDELINES, 01 MAY 2026

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Why This Brief Exists

Most people who buy a trauma kit do it once, in a hurry, after something reminded them they could have helped and did not have what they needed. They open the search bar, type "trauma kit" or "IFAK," and land on a page selling them whichever bundle has the highest margin. Six months later the kit is in a closet, the contents are loose, no one in the household has touched a tourniquet, and the person who bought it has a vague feeling that they did the responsible thing.

> *That is not preparedness. That is anxiety, monetized.*

This brief is the document we wish every customer had read before they bought their first kit. It is not a sales catalog. It is a working reference for the people who answer the call when seconds matter, and for the people who suddenly realize they may be the only one nearby when seconds matter for someone else. It covers the doctrine that underlies every trauma intervention worth knowing, the decision logic for matching a kit to your actual life, and the application chapters that translate doctrine into specific gear for the role you actually fill.

The doctrine half of this brief is the same regardless of who you are. A patrol officer, a school safety coordinator, a parent, a wilderness guide, and a corporate EHS manager all face the same physiology when a person is bleeding out. The application half is where context changes everything. The first half of this document is shared. The second half is where you skip to the chapter that matches your mission.

How to read this brief.

If you are short on time, read Part One (the doctrine) all the way through. It is the foundation, and skipping it is how people end up with the wrong kit. Then jump to the application chapter that matches your role. The reference appendices at the end are designed to live on a desk or in a binder — come back to them as needed.

Document currency.

Device lists and clinical recommendations in this brief reflect the Tactical Combat Casualty Care Guidelines dated 01 May 2026. CoTCCC revises its guidelines and its Recommended Devices and Adjuncts list on a rolling basis. Before writing a specification or committing a procurement, verify against the current published list.

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PART ONE

Doctrine

The clinical and tactical foundations every responder — professional or civilian — should understand before they pick up a tourniquet.

IN THIS PART

- 1. The Preventable Death Problem
- 2. The MARCH Algorithm
- 3. Why Order Matters: A Physiology Primer
- 4. The 90-Second Rule
- 5. TCCC, TECC, and CoTCCC-Recommended
- 6. The Tools That Earn a Place

1

The Preventable Death Problem

In the years following the September 11 attacks, the United States sent hundreds of thousands of service members into Iraq and Afghanistan. The casualty data that came back from those deployments reshaped the practice of prehospital trauma care globally. The Committee on Tactical Combat Casualty Care, drawing on autopsy reviews and after-action reports, identified that a meaningful percentage of combat deaths were classified as "potentially survivable" — meaning the wound itself was not inherently lethal, but the casualty died before reaching definitive care.

Three injury categories accounted for the overwhelming majority of these potentially survivable deaths: extremity hemorrhage from major arteries, tension pneumothorax from penetrating chest trauma, and airway compromise. None of these are exotic injuries. All three have field-applicable treatments that, when applied within minutes, shift the mortality curve substantially. The lessons did not stay in the military. Every domestic mass casualty event since — school shootings, concert attacks, vehicle ramming incidents, workplace violence events — has demonstrated that the same physiology applies on American streets. A femoral artery does not know whether it was severed by an IED in Helmand or by an attacker in a Las Vegas hotel hallway. The blood loss curve is identical. The window for intervention is identical. What differs is who is standing nearby when it happens.

> *In a combat environment, that person is a fellow soldier with training and a kit. In a civilian environment, that person is whoever happens to be there.*

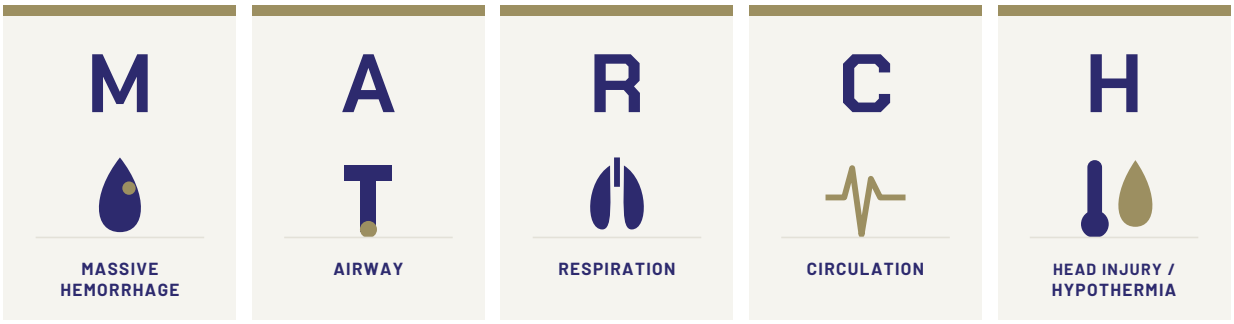
This is the problem the modern preparedness movement exists to solve. It is not paranoia. It is the recognition that EMS response times in the United States run roughly seven minutes in urban systems and substantially longer in rural ones, and that a major arterial bleed can reach a fatal blood loss volume in three to five minutes. The arithmetic is not subtle. Either someone at the scene has the tools and the training to act, or the casualty bleeds out before professional help arrives.

The data on civilian outcomes is equally clear. The American College of Surgeons built its Stop the Bleed® program on the work of the Hartford Consensus, the working group convened after Sandy Hook, which concluded that hemorrhage control by laypersons was a survivable-death intervention being missed at scale. That program has now trained more than five million people across all fifty states and at least 141 countries. It works. What MED-TAC adds is the bridge between knowing the concept and being equipped to act on it. Training teaches the skill. The kit makes the skill executable. Without both, the preventable death stays preventable in theory only.

2

The MARCH Algorithm

Every system MED-TAC teaches and every kit MED-TAC assembles is built around a single algorithm: MARCH. The acronym stands for Massive hemorrhage, Airway, Respiration, Circulation, and Head injury / Hypothermia — five letters, five priorities, in that order. It replaces the older ABC sequence in trauma care because the data showed that for the injury patterns most likely to kill a casualty in the prehospital window, the order of interventions changes survival outcomes.



The MARCH algorithm — sequenced trauma intervention priorities.

Each letter represents a specific clinical step. **M** directs the responder to identify and control any active major bleeding immediately — tourniquet for extremity arterial bleeding, wound packing with hemostatic gauze for junctional or non-extremity wounds, pressure dressings to maintain control. **A** covers airway patency: a conscious casualty takes whatever position protects the airway; an unconscious one goes in the recovery position, head back and chin away from the chest. **R** covers penetrating thoracic injury — a vented chest seal for an open pneumothorax, with needle decompression reserved for advanced providers. **C** reassesses hemorrhage control after intervention and identifies shock. **H** protects against secondary brain injury and prevents hypothermia in all major-trauma casualties — even in warm environments, blood loss drives core temperature down, and hypothermia worsens coagulopathy and outcomes.

The reason MARCH places massive hemorrhage before airway is that exsanguination kills faster than airway compromise in the most common preventable-death injury patterns. A casualty with a transected femoral artery has approximately three minutes to live. A casualty with a partially occluded airway typically has longer. If you only have time to do one thing, the algorithm tells you which one.

MARCH is a sequence, not a checklist you complete once. After any intervention you return to the top and reassess, because a tourniquet can slip, a chest seal can fail, and a casualty who was talking a minute ago can stop. For a civilian responder without advanced training, the practical takeaway is that the M and the H are the parts you can execute with the right equipment: stop major bleeding with a tourniquet or hemostatic gauze, and prevent hypothermia with a thermal blanket. Those two interventions alone close most of the preventable-death gap between time of injury and EMS arrival.

3

Why Order Matters: A Physiology Primer

A typical adult has approximately five liters of circulating blood volume. The classification of hemorrhagic shock is built around the percentage of that volume that has been lost.

Class	Volume Lost	Clinical Picture
Class I	Up to 15% (750 mL)	Minimal symptoms. Heart rate normal or slightly elevated. Compensation is complete. The patient looks fine.
Class II	15–30% (750–1500 mL)	Tachycardia. Anxiety. Narrowed pulse pressure. Skin cool. Decreased urine output. Mental status still intact.
Class III	30–40% (1500–2000 mL)	Tachycardia worsens. Hypotension. Confusion or agitation. Skin pale and cool. Compensation begins to fail.
Class IV	Over 40% (>2000 mL)	Severe hypotension. Profound mental status change. Anuria. Imminent cardiovascular collapse without intervention.

These class boundaries are a teaching framework, not a diagnostic test. Young, fit casualties compensate well and can look deceptively stable until they fail abruptly. Treat the mechanism and the bleeding you can see, not the blood pressure.

The femoral artery, when fully transected, can deliver blood loss in the Class III range within three to five minutes. The brachial artery is slower but follows the same trajectory. Major junctional wounds — the groin, the axilla, the base of the neck — can produce equivalent loss rates because the vessels are large and not amenable to tourniquet placement, which is why hemostatic gauze and proper wound packing exist as a separate intervention category. This timeline is the entire reason MARCH places massive hemorrhage first. The interventions for airway, respiration, and circulation all take meaningful time to perform. If a casualty is bleeding at a rate that produces Class IV shock in five minutes and you spend three of those minutes establishing an airway, you have managed the second-priority threat while the first-priority threat killed the patient.

> *In a tactical or austere environment, the order of interventions is not a matter of preference. It is the difference between a patient who survives and one who does not.*

A second physiologic factor is the "lethal triad" of trauma: hypothermia, acidosis, and coagulopathy. These three conditions reinforce one another in a feedback loop that, once established, is extraordinarily difficult to reverse. Blood loss drives all three. Cold environments accelerate all three. Hypothermia prevention sits in the H of MARCH not because cold patients are uncomfortable but because a hypothermic trauma patient does not clot effectively. Controlled bleeding becomes uncontrolled, the shock cascade accelerates, and a simple thermal blanket becomes one of the highest-leverage interventions available to a non-medical responder.

4

The 90-Second Rule

There is a phrase that gets used in tactical medicine training circles: "the first first responder." It refers to the person who is physically present at the moment of injury — almost never a paramedic, almost never a police officer, almost always a civilian who happened to be standing nearby. For mass casualty events at houses of worship, schools, workplaces, and public venues, the operational reality is that professional responders take time to arrive, time to stage outside a confirmed-safe perimeter, and time to make entry. During that window, which can run from minutes to tens of minutes, the only medical intervention available to wounded persons inside is whatever the people in the building can provide. This is what church safety teams, school teachers, building security, and workplace first-aid responders are now being trained to do across the country.

The "90-Second Rule" is a placement principle: every person in a facility should be within 90 seconds of a bleeding control kit. For a small church, this might mean a single public-access bleeding control station near the main sanctuary. For a school campus, it means a station in every administrative office, gymnasium, and cafeteria, and a kit on each bus. For a corporate facility, it means stations near AEDs and at least one per floor.

> **The 90-Second Rule in practice.**
>
> Stand in any room of your facility. Could you reach a tourniquet, hemostatic gauze, and a vented chest seal in 90 seconds without leaving the building? If the answer is no, you have a placement gap. The fix is rarely more equipment — it is better distribution of the equipment you already have, supplemented by high-traffic public-access stations. Chapter 8 goes deeper into placement strategy with a worked example.

Two failure modes defeat the rule even when the equipment budget was spent correctly. The first is the locked cabinet: a kit behind a door that only the school nurse or the facilities manager can open is not accessible at the moment it matters. The second is the unlabeled kit: staff cannot retrieve equipment they do not know exists. Both are solved with signage, an annual walk-through, and treating the stations exactly the way the building already treats fire extinguishers.

5

TCCC, TECC, and CoTCCC-Recommended

The vocabulary of tactical medicine can be opaque to outsiders, and several terms get used as if they are interchangeable when they are not. A clear definition of each clarifies what to look for when evaluating training programs and equipment claims.

TCCC: Tactical Combat Casualty Care

TCCC is the U.S. Department of Defense standard of care for prehospital trauma in combat environments. It is administered by the Committee on Tactical Combat Casualty Care, a working group under the Defense Health Agency that reviews evidence and updates guidelines on a continuous basis. TCCC organizes care into three phases: Care Under Fire, Tactical Field Care, and Tactical Evacuation Care. Each phase has different priorities and acceptable interventions, reflecting the different risk profiles of each phase.

TECC: Tactical Emergency Casualty Care

TECC is the civilian translation of TCCC, maintained by a separate civilian committee. It exists because the tactical principles of TCCC apply to civilian high-threat events — active shooters, terrorist attacks, civil unrest — but the operational, legal, and patient-population context differs from a military deployment. TECC retains the MARCH algorithm and the phased-care model, but renames the phases to Direct Threat, Indirect Threat, and Evacuation Care, and adapts the protocols for law enforcement, fire, EMS, and trained civilian responders — including pediatric and geriatric casualties, who are rare on a battlefield and common in a school or a shopping center. TECC is the standard adopted by most American police and fire departments for active shooter response and tactical EMS. The two are related but not interchangeable, and a training provider who uses the terms as synonyms is a provider worth questioning.

CoTCCC-Recommended

When a product is described as "CoTCCC-recommended," the term has a precise and limited meaning. CoTCCC reviews evidence on prehospital trauma equipment and publishes a Recommended Devices and Adjuncts list. Under the guidelines current at the time of writing, the recommended non-pneumatic limb tourniquets are the C-A-T (Generations 6 and 7), the SOF Tactical Tourniquet-Wide, the SAM XT, the Tactical Mechanical Tourniquet, the TX2 and TX3, and the Ratcheting Medical Tourniquet — Tactical. Two pneumatic devices are also listed. For hemorrhage control dressings, Combat Gauze is the hemostatic dressing of choice, with Celox Gauze, ChitoGauze, and XStat listed as alternatives and the iTClamp available as an adjunct.

Where the list stops matters as much as what is on it. CoTCCC does not publish a brand list for chest seals. That guideline is written by capability rather than by product: apply a vented chest seal to any open or sucking chest wound, and use a non-vented seal only when a vented one is unavailable. Any vendor advertising a "CoTCCC-recommended chest seal" is describing something the committee has never published. The same correction applies to junctional tourniquets — the CoTCCC-Recommended designation was removed from that category, and no specific junctional products carry it today. Both are useful tests of whether a supplier is reading the guidelines or repeating marketing copy.

> **What CoTCCC-recommended does NOT mean.**
>
> It is not an FDA approval. It is not a regulatory certification. It is an evidence-based recommendation from a military trauma working group. Products not on the list may still be effective, but have not received the same scrutiny. MED-TAC uses "CoTCCC-recommended" because it is the most accurate description of what the designation conveys. Vendors who use "approved" or "certified" are using language CoTCCC does not use.

The Limits of the List

The list is a snapshot, and it is older than most people who cite it assume. The limb tourniquet list in circulation today is the output of a single comprehensive evaluation the committee conducted in **May 2019**, which measured commercially available devices against standardized criteria and expanded the recommended set to eight non-pneumatic and two pneumatic tourniquets. That review stated an explicit intent to establish a model for recurring evaluation of recommended devices. In the years since, no comparable review has added a limb tourniquet. The list most vendors present as current is, in substance, seven years old.

The committee has also been narrowing what it endorses by name rather than broadening it. Junctional devices were named individually in May 2019 — the Combat Ready Clamp, the SAM Junctional Tourniquet, the JETT. Current guidance names no junctional product at all, directing the end user instead to select any FDA-cleared device indicated for junctional hemorrhage control. Airway devices have moved the same way. The trend runs away from product endorsement and toward capability requirements, and a device list that is not being maintained may at some point not be maintained at all.

This matters for procurement because absence from the list is routinely treated as though it were a finding. It is not. The committee has never published a finding that a specific non-listed tourniquet failed. A device may be absent because it was evaluated and not recommended, because it did not exist in 2019, because its manufacturer never submitted it, or because its entire category is no longer evaluated by name. Those are four unrelated situations, and the list does not distinguish among them. Writing "must be CoTCCC-recommended" into a specification without understanding this locks an agency to a 2019 market and silently excludes every device proven in every conflict since.

Absence from the list is a reason to ask harder questions. It is not, by itself, an answer.

Devices with a legitimate basis for evaluation

Four examples, each illustrating a different reason a capable device can sit outside a frozen list:

Conflict-proven at scale — DNIPRO Gen 2 (Ukraine). A windlass device adopted broadly by Ukrainian forces and now the subject of published comparative testing against the C-A-T Gen 7 and SOFTT-W Gen 4, using Doppler-confirmed occlusion in experienced medics. Whatever the outcome of that literature, it is among the most heavily used tourniquets of the largest conventional land war since 1945.

Studied, FDA-listed, and filling a gap the list no longer addresses — LST (Israel). A combined limb and junctional device with occlusion data from Shaare Zedek Medical Center in Jerusalem, ISO 13485 manufacturing, and FDA listing. Because CoTCCC no longer names junctional products, the list neither includes nor excludes it; judge it on its own evidence, and confirm its FDA status before relying on it for junctional use.

A category the 2019 review could not have assessed — XMETIX TAK710 (Israel). A fully automated, single-button tourniquet aimed at untrained users. Whatever its eventual performance record proves to be, an evaluation frozen in 2019 has no mechanism to assess a device class that did not exist then.

Domestic manufacture solving an access problem — Desmodus T-APH (Brazil). A windlass tourniquet designed and built in Brazil and registered with ANVISA, developed specifically because imported devices were slow and costly to obtain. Access is a real clinical variable in such markets — provided the domestic device meets the same evidence tests as any import.

What this does not license

None of the above is an argument for buying an unvetted tourniquet, and it does not soften the guidance in Chapter 6. Ukraine is the cautionary case as much as the proof case: the flood of cheap imports into that conflict included enough failing devices that the Ukrainian military stood up a dedicated tourniquet testing laboratory and publicly warned its own soldiers against "better than nothing" purchases. The correct response to a frozen list is a higher evidence standard, not a lower one.

Ask for independent occlusion data confirmed by Doppler or an equivalent method, a documented quality management system such as ISO 13485 or its national equivalent, regulatory clearance in the market where the device will be used, and traceable manufacturing. A device that meets those tests deserves evaluation on its merits. An unbranded windlass from a marketplace listing meets none of them, and the counterfeit warning in Appendix B applies to it with full force.

6

The Tools That Earn a Place

Every component in a properly built trauma kit corresponds to a specific letter of the MARCH algorithm. Anything that does not have a clear physiologic or operational rationale should not be in the kit. The list below describes the components that earn a place, and what each one does.

Tourniquet (M)

A windlass or ratchet limb tourniquet is the single highest-priority item in any trauma kit. The CoTCCC-recommended devices listed in Appendix B have all been validated against standardized criteria including arterial occlusion and one-handed self-application. Generic or unbranded tourniquets are not appropriate for life-saving applications, and elastic wrap, zip-tie, and thin-cord designs are not on the list. There is no scenario in which an improvised tourniquet is acceptable when a manufactured one could have been carried. This is a standard about evidence and manufacturing quality, not about country of origin — see *The Limits of the List* in Chapter 5 for capable devices that sit outside the CoTCCC list and why.

Placement is doctrine, not preference. Hasty — under threat, or when you can't find the source fast: high and tight over clothing. Deliberate — once it's safe and the wound is visible: on skin 2–3 inches above it. Never across a joint. Tighten until the bleeding stops and the distal pulse is gone; a tourniquet that only slows bleeding can worsen blood loss. Write the time on the device or the casualty. Reassessment, repositioning, and conversion changed materially in the 2026 TCCC update, and are covered next.

After the Tourniquet Is On

For twenty years the civilian teaching point was "apply it and leave it." That is no longer the standard, and anyone still teaching it is teaching to an evacuation timeline that often does not exist.

Casualty data from the Russo-Ukrainian War showed two problems at scale: tourniquets applied to wounds that never needed one, and tourniquets left in place through evacuation delays long enough to cause avoidable ischemic injury. In response the CoTCCC convened a working group on whether reassessment and conversion should extend below the medic level. The resulting update carried two changes that matter to every reader of this brief.

First, reassessment is now mandatory, not optional. Every tourniquet that goes on gets rechecked for continued indication, correct placement, and effectiveness, as soon as it is safe to do so. This is stated as a requirement rather than a best practice. The civilian relevance is direct: one 2025 study found that roughly three-quarters of civilian prehospital tourniquet applications were not indicated, and that share has been rising. A tourniquet that was never needed is a tourniquet that should come off under controlled conditions — and nobody finds that out without reassessing.

Second, conversion is no longer a medic-only skill. The update explicitly extends reassessment and, under defined conditions, conversion to non-medical responders. The governing variable is elapsed time:

Time on Limb	Who May Convert	Standard
Under 2 hours	Any trained responder	The conversion window. A trained responder — including a trained civilian — may convert if bleeding is controllable by other means and the casualty can be monitored for rebleeding.
2 to 6 hours	Medical personnel only	Likely safe but carries real ischemic and metabolic risk. Restricted to medical providers operating under medical direction.
Over 6 hours	No one, in the field	Field conversion is not recommended. The casualty needs a facility with laboratory monitoring and surgical capability.

Technique, when conversion is indicated (no shock, no amputation): expose the wound; apply hemostatic gauze or a pressure dressing, or a deliberate tourniquet on skin 2–3 inches above the wound; then slowly loosen — but do not remove — the original. If bleeding returns, retighten it, do not try again, and move.

> **The word that carries the weight is trained.**
>
> The update opened conversion to trained non-medical responders. It did not open it to untrained bystanders, and it did not make conversion a routine expectation of a passer-by who applied a tourniquet at a car wreck three minutes before EMS arrived. If EMS is inbound, your job is to leave it alone and hand over a time.
>
> The people this change is written for are the ones who own the casualty for hours: rural and wilderness responders, overland and expedition travelers, tactical teams in extended operations, and anyone whose realistic evacuation timeline is measured in hours rather than minutes.

One scope caveat that vendors routinely skip. TCCC is the military standard. Your civilian authority to convert does not come from a TCCC publication — it runs through TECC adoption, your state EMS office, and your agency or organizational medical director, and that path takes years rather than months. Train the skill and understand the framework now; act within the scope your medical director has actually given you.

Hemostatic Gauze (M)

Hemostatic gauze is impregnated with an agent — typically kaolin or chitosan — that accelerates clot formation. It is used for wound packing in junctional or non-extremity bleeding where a tourniquet cannot be applied. Pack the wound firmly down to the bleeding vessel, then hold at least three minutes of uninterrupted direct pressure; intermittent release breaks the clot as it forms. If one dressing fails to control the bleeding, it may be removed and a fresh dressing of the same or a different type packed in its place. Plain gauze works for wound packing but is markedly slower to achieve hemostasis.

Pressure Bandage (M)

A pressure dressing such as the OLAES Modular Bandage or the Israeli Emergency Bandage maintains compression after wound packing or after a tourniquet has been applied. The OLAES adds a removable occlusive sheet that can serve as an improvised chest seal in the absence of a dedicated one, and an integral pressure cup that concentrates compression directly over the wound bed.

Vented Chest Seal (R)

A vented chest seal is applied over a penetrating thoracic wound to prevent air from entering the pleural space while allowing one-way egress of accumulated air. Vented is the first-line design; a non-vented seal is a fallback when nothing vented is available, and it requires continuous monitoring for a developing tension pneumothorax, managed by burping or removing the seal. Two seals per kit is standard practice — penetrating wounds frequently produce both entry and exit sites. Note that the recommendation attaches to the capability, not to a brand; see Chapter 5.

Nasopharyngeal Airway (R)

An NPA is a soft tube inserted through the nostril. Under the 2026 TCCC Guidelines it supports bag-valve-mask ventilation; the first airway step is positioning. It is commonly sized at 28 French for adult use and inserted with lubricant. Effective only when the responder has been trained on placement.

Trauma Shears, Thermal Blanket, PPE, Marker

Quality 7.5-inch shears cut through tactical fabrics that defeat cheap shears. A reflective thermal blanket prevents heat loss in every climate and is justified by hypothermia's contribution to coagulopathy. Nitrile gloves and a barrier device protect responder and casualty. A permanent marker records the time of tourniquet application directly on the device and on the casualty card — time-on-tourniquet drives the surgical decision tree at the receiving facility.

PART TWO

Decision Logic

How to choose the right kit for your actual context — and why one size genuinely does not fit all.

IN THIS PART

- 7. Matching the Kit to the Mission
- 8. Where Your Kit Lives
- 9. The Refill Cycle

7

Matching the Kit to the Mission

MED-TAC organizes its kit recommendations into three tiers that correspond to the operational context the kit is designed for. The tier framework is not a sales hierarchy — the right tier depends entirely on the user's training level, the environment the kit will live in, and the time-to-definitive-care assumption underlying the deployment.

TIER 1

Basic

COVERS:
M + H

Tourniquet, hemostatic gauze, pressure bandage, vented chest seal, gloves, shears, thermal blanket, marker.

BEST FOR:
EDC, vehicle, home, civilian preparedness

TRAINING:
Bleeding-control course (90 min)

TIER 2

Enhanced

COVERS:
M + A + R + H

Adds NPA, second vented chest seal, additional gauze and bandages, expanded PPE, casualty marking.

BEST FOR:
Trained responders, RSOs, SROs, safety teams

TRAINING:
TECC or equivalent

TIER 3

PFC

COVERS:
Full MARCH +

Advanced airway, fluid resuscitation, antibiotics, analgesics, splinting, monitoring, documentation.

BEST FOR:
Paramedic, military medic, physician — austere only

TRAINING:
Advanced clinical certification

The MED-TAC three-tier framework. The capability bar shows escalating MARCH coverage.

A **Tier 1 Basic** kit addresses the M and the H of MARCH. It is the appropriate kit for everyday-carry, vehicle deployment, home placement, and most civilian preparedness applications. It assumes the user has completed a basic bleeding control course and that EMS will arrive within fifteen to thirty minutes. A **Tier 2 Enhanced** kit adds the A and R interventions, capacity for multiple casualties or more severe wounds, and expanded PPE. It is appropriate for trained responders who can manage airway and chest seal applications. A **Tier 3 PFC** kit is built for scenarios where definitive care is hours or days away, and is designed for paramedic, military medic, or physician-level responders only.

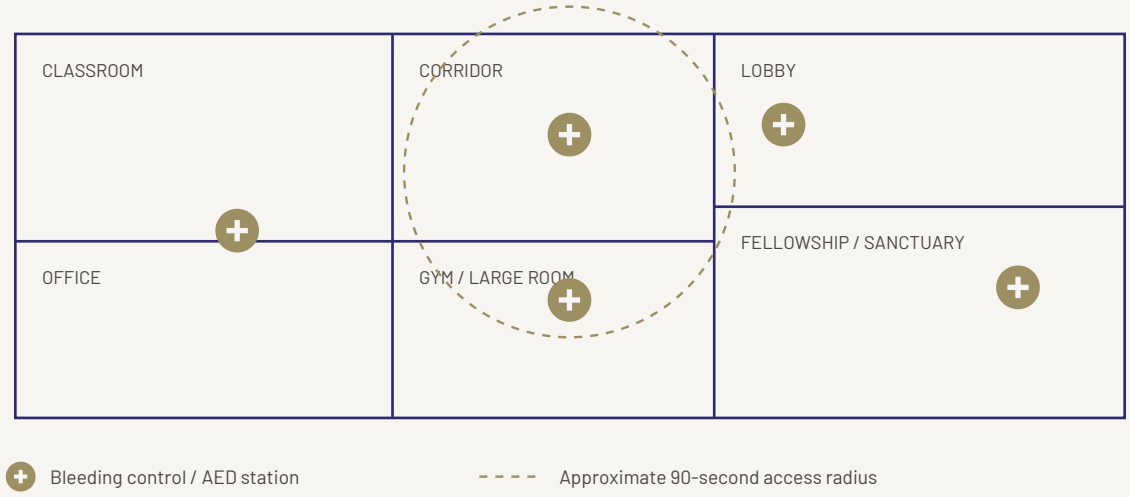
> **The most common mistake** is buying above your training level. A civilian with a Tier 3 kit and no medical training has spent significant money on equipment they cannot legally or safely use. The MED-TAC tier framework exists specifically to route you toward the kit that matches your training, not toward the most expensive option.

8

Where Your Kit Lives

A kit you cannot reach in 90 seconds is functionally not a kit. Placement is half the equation, and placement gets ignored more often than equipment selection because it requires thinking through where injuries actually occur and how the user will access the kit under stress.

The 90-Second Rule in Practice



Public-access kit placement on a representative facility floor plan.

On-Body Carry

For armed professionals, off-duty law enforcement, range instructors, and serious civilians, carrying a tourniquet on the body is the gold standard. A flat-fold tourniquet in a back pocket, an ankle medical pouch, or an inside-the-waistband pouch opposite the dominant hand all work. The principle is that a kit in the trunk does not help when the bleeding is happening in the parking lot.

Vehicle, Home, and Institutional Placement

A vehicle kit should live somewhere accessible from the driver's seat, not in the trunk. Door panel kits, headrest kits, glove box kits, and center console kits all serve this purpose. The constraint is heat — consumables degrade in a vehicle that reaches 140°F in summer, and rotation cycles need to reflect that. Home placement favors a single kit in a known location near the front door, in the garage, or in the kitchen — locations where injuries occur or where a first responder enters. For schools, churches, workplaces, and public venues, the placement principle is the 90-Second Rule. Co-locate kits with AEDs whenever possible: same staff, same training, single mental model for emergency response.

9

The Refill Cycle

A trauma kit is not a one-time purchase. It is a system that requires periodic replacement as components age out. A kit with expired hemostatic gauze and a tourniquet whose elastic has degraded in heat is not a working kit, regardless of how expensive it was when purchased. Building a refill cycle into your preparedness practice is what separates real readiness from theatrical readiness.

Component	Typical Shelf Life	Replacement Notes
Hemostatic Gauze	5 years sealed	Heat exposure shortens shelf life. Inspect packaging integrity every 6 months. Discard if the vacuum seal is broken.
Pressure Bandages	5 years sealed	Elastic degrades in heat. Test stretch at annual inspection.
Chest Seals	3–5 years	Adhesive degrades faster than other components. Check flexibility at annual inspection.
Tourniquets	5+ years	No defined expiration, but inspect for elastic degradation, discoloration, and windlass or ratchet integrity. Heat-stored tourniquets should be replaced every 3 years. Retire any tourniquet used in training — never return it to a duty pouch.
NPA	No expiration	Replace if packaging is compromised or lubricant has dried.
Thermal Blankets	5+ years	Functionally indefinite if the package is intact.
Gloves	3–5 years	Nitrile degrades. Replace at the expiration date on the package.

The MED-TAC Refill Program exists specifically to handle this cycle without requiring the customer to track it. For institutional buyers — schools, churches, workplaces — the refill program is the operational difference between a compliant bleeding control program and a paper one. It is also the operational difference between kits that work in a real emergency and kits that fail because nobody noticed the expiration date on the hemostatic gauze.

PART THREE

Application

Skip to the chapter that matches your mission.
Each chapter translates the doctrine of Parts One and Two into specific recommendations for your context.

IN THIS PART

- 10. Law Enforcement
- 11. Schools and Houses of Worship
- 12. The Family Kit
- 13. Wilderness, Overland, and Range
- 14. Workplace and Industrial

10

Law Enforcement: The Patrol Officer's Kit

A patrol officer faces a specific operational profile: long shifts in a vehicle, unpredictable contact with violent suspects, frequent first-on-scene status for civilian medical emergencies, and a duty belt that is already at maximum capacity. The kit design problem is to provide hemorrhage control capability in a form factor that does not interfere with primary mission responsibilities. The standard patrol loadout includes three layers: an individual on-body kit (typically a flat-fold tourniquet plus a slim IFAK pouch), a vehicle kit positioned for driver-seat access, and a patrol-rifle-bag kit for tactical deployments. The on-body kit addresses self-aid and immediate buddy-aid. The vehicle kit extends capability for multi-casualty scenes. The rifle-bag kit supports the small percentage of incidents that escalate to sustained tactical operations.

Procurement of LE kits is typically funded through the department's general operations budget, the Edward Byrne Memorial Justice Assistance Grant Program, or FEMA preparedness grants. Department-level procurement should specify CoTCCC-recommended components, define a refill cycle, and require training of all sworn personnel on the issued equipment. A kit on a duty belt that the officer has not trained with is not an asset.

Two specification details separate a durable contract from a problem one. First, name the device list rather than a single brand, so the agency is not exposed when one manufacturer has a supply interruption. Second, write the refill cycle into the purchase order rather than leaving it to a future budget year, because a program that is not funded to be restocked is a program that quietly expires.

11

Schools and Houses of Worship

Schools and houses of worship share an operational profile that is distinct from law enforcement, EMS, and military contexts. The buildings are populated by a mix of staff and untrained attendees. The most likely high-acuity events are unintentional injuries — athletics, kitchen accidents, falls — punctuated by rare but high-consequence violent events. The kit infrastructure must serve both profiles. The standard configuration is a public-access bleeding control station co-located with each AED, supplemented by individual kits issued to the safety team or designated responders. These stations typically contain four to eight individual bleeding control modules. The fire-extinguisher analogy applies: stations should be visible, labeled, accessible to anyone in the building, and located on a placement schedule that satisfies the 90-Second Rule.

For house-of-worship deployments, an additional consideration is liability and insurance. Many carriers offer premium consideration for facilities that have implemented bleeding control programs. Documentation of staff training, equipment inspection logs, and a written response plan is typically required to qualify. For school deployments, the relevant statutory framework varies by state. Multiple states have passed legislation requiring bleeding control equipment in public schools, with more states introducing similar legislation each year. Compliance with these statutes typically requires both equipment placement and staff training, with annual documentation. Confirm the current requirement with your state department of education or school board counsel before building a budget — the statutes differ meaningfully on who must be trained and how often.

12

The Family Kit

A family preparedness kit serves a different mission profile than any of the institutional contexts above. The likely casualty is a family member, the responder is a parent or spouse, and the operational context is a home, a vehicle, or a recreation environment. The most common high-acuity injuries in this context are vehicle accidents, kitchen lacerations, workshop injuries (chainsaw, table saw, glass), athletic injuries, and outdoor recreation incidents.

The recommended family configuration is a three-kit system: a home kit at a known location near the front door, a vehicle kit accessible from the driver's seat, and an everyday-carry kit on the person of at least one family member. The home kit is typically Tier 1 Basic, the vehicle kit is also Tier 1 with additional consumables, and the EDC kit is a minimal flat-fold tourniquet plus a hemostatic gauze package in a slim carrier.

Training is the part that gets skipped most often in family preparedness. Equipment without training is theater. The recommended progression is a basic bleeding control course — typically free, about 90 minutes, and widely available through hospitals and the American College of Surgeons Stop the Bleed® program — followed by hands-on practice with the family's actual equipment at least once per year. Skill decay is real and measurable in the published literature, which is the argument for the annual refresher rather than a single class. Children old enough to follow directions can and should be included in family-level training.

13

Wilderness, Overland, and Range

The defining feature of wilderness, overland, and shooting-range environments is delayed access to definitive care. EMS response times that may be twelve minutes in a suburb can be two hours, four hours, or longer in a remote setting. The kit must cover a longer prehospital window, and the user must be trained to manage a casualty for that extended duration.

Wilderness and overland kits typically build from a Tier 1 Basic foundation and add: additional bleeding control capacity, splinting and immobilization (SAM Splint, triangular bandages), basic burn care, environmental supplies (water purification, additional hypothermia protection), and signaling and communication tools. For multi-day expeditions, the kit progresses toward Tier 3 PFC capability and the user should hold a Wilderness First Responder or equivalent certification.

Range kits are a specialized category. They are essentially Tier 2 Enhanced kits configured specifically for ballistic injury, with additional vented chest seals (entry plus exit wounds are common), additional gauze, and accessible mounting that allows the kit to be reached by anyone present without leaving the firing line. NSSF and OSHA guidance for commercial ranges increasingly treats bleeding control equipment as required safety infrastructure. The practical standard for a staffed range is a kit at the firing line itself rather than only in the pro shop, because the walk back to the counter is the part of the timeline you cannot afford.

14

Workplace and Industrial

Workplace bleeding control programs sit at the intersection of OSHA general-duty obligations, ANSI Z308.1 first-aid kit standards, state-specific bleeding control statutes, and an evolving liability landscape that increasingly treats employer preparedness as a duty of care. For corporate and industrial safety officers, the question is no longer whether to deploy bleeding control equipment but how to structure the program to satisfy regulatory and insurance requirements.

A defensible workplace bleeding control program follows a seven-step structure: needs assessment based on facility size and risk profile, equipment placement consistent with the 90-Second Rule, staff training with documented competency, a written response plan integrated with the existing emergency action plan, an inspection and refill cycle with logged compliance, integration with EMS and local first responders, and annual program review. Skipping any of these steps creates either a compliance gap or an operational gap.

Industrial environments add specific exposure categories: burns (thermal, chemical, electrical), eye injuries, crush injuries, and amputations. The bleeding control kit is one component of a broader industrial trauma readiness program that should include burn dressings, eye irrigation, and immobilization capability. The MED-TAC industrial trauma framework addresses each of these in a four-layer system: individual responder kits, departmental stations, central trauma response equipment, and integration with on-site medical or contracted EMS.

Appendix A

Glossary of Tactical Medicine Terms

AED	Automated External Defibrillator. Portable device that analyzes cardiac rhythm and delivers a shock to restore normal rhythm in cases of ventricular fibrillation or pulseless VT.
Care Under Fire	The first TCCC phase, in which the responder is still under effective hostile fire. Interventions are limited to life-threatening external hemorrhage control and moving the casualty to cover.
Conversion	Replacing or downgrading a tourniquet to a lesser means of hemorrhage control once bleeding can be held by other methods. Governed by elapsed time, casualty condition, and responder training. Under the 2026 TCCC update this is no longer a medic-only skill inside the first two hours. See Chapter 6.
Reassessment	Rechecking an applied tourniquet for continued indication, correct placement, and effectiveness. Under the 2026 TCCC update this is a requirement for every tourniquet applied, not a best practice.
CoTCCC	Committee on Tactical Combat Casualty Care. Working group under the Defense Health Agency that publishes prehospital trauma care guidelines and a Recommended Devices and Adjuncts list.
EDC	Every Day Carry. Medical equipment carried on the person during routine activities.
Hemostatic Agent	A substance applied to a wound to accelerate clot formation. Common agents include kaolin and chitosan.
IFAK	Individual First Aid Kit. Compact kit designed to address the most common preventable causes of death identified in TCCC data.
Junctional Wound	A wound at the junction of a limb and the torso (groin, axilla, base of neck) where a limb tourniquet cannot be applied. Requires wound packing.
MARCH	Trauma assessment algorithm: Massive hemorrhage, Airway, Respiration, Circulation, Head injury / Hypothermia.
NPA	Nasopharyngeal Airway. Soft tube inserted through the nostril; in TCCC 2026, an adjunct to bag-valve-mask ventilation.
PFC	Prolonged Field Care. Trauma care in environments where definitive care is hours to days away rather than minutes.
TCCC	Tactical Combat Casualty Care. The DoD standard of care for prehospital trauma in combat environments.
TECC	Tactical Emergency Casualty Care. Civilian translation of TCCC, adapted for law enforcement, fire, EMS, and trained civilian responders.

Tension Pneumothorax	Life-threatening condition in which air accumulates in the pleural space under pressure, compressing the lung and great vessels.
Tourniquet	A device applied proximal to a wound to occlude arterial flow. Hasty: high and tight over clothing. Deliberate: on skin 2–3 in above the wound. Never across a joint. See Appendix B.
Vented Chest Seal	An occlusive dressing with a one-way valve, applied to an open chest wound to prevent air entry while allowing trapped air to escape. First-line over non-vented designs.
Wound Packing	Inserting hemostatic or plain gauze directly into a wound cavity to apply pressure on the bleeding vessel and accelerate clot formation.
XStat	Injectable compressed sponges for deep, narrow-tract junctional wounds not amenable to a tourniquet. Not removed in the field.

Appendix B

CoTCCC-Recommended Tourniquet Reference

The devices below carry the CoTCCC recommendation for limb hemorrhage control under the guidelines current at the time of writing. All other tourniquets — including elastic wrap, zip-tie, thin-cord, and improvised devices — are not appropriate for life-saving applications.

Device	Mechanism	Notes
C-A-T (Gen 7)	Windlass	Combat Application Tourniquet. Single-routing buckle, windlass clip, time strap. The most widely deployed limb tourniquet in U.S. military and law enforcement service. Gen 6 remains listed until replaced.
SOF Tactical Tourniquet-Wide	Windlass	Aluminum windlass, 1.5-inch compression band, locking mechanism. The original 1-inch narrow SOF-T is no longer on the list.
SAM XT	Windlass	Truncated Snap Lock buckle that audibly clicks at correct tension. Designed to reduce slack-removal failures.
Tactical Mechanical Tourniquet	Windlass	Wide band with a low-profile buckle and windlass retention. Designed for gloved application.
TX Series (TX2 / TX3)	Ratchet	Added to the recommended list in 2019 in 2-inch and 3-inch band widths, cited for reduced tissue and nerve injury over long tourniquet times. **A brand name applied to the m2 ratcheting design, which has been manufactured and sold under the m2 name throughout.** See the note below.
TX-XL (3 in)	Ratchet	The widest non-pneumatic band on the recommended list. 3-inch UV-resistant MILSPEC webbing on a 60-inch strap, self-locking polymer ratchet with a mechanical release, and a Bite Strap loop for true one-handed self-application. The wide band spreads load rather than concentrating it, which is why it is specified for large-thigh application, fragile tissue, and extended tourniquet times — see the conversion framework in Chapter 6. The polymer ladder keeps working in sand and dirt, there is no printed expiration date, and it is durable enough that one device serves both training and operational use. NSN 6515-01-667-6208.
Ratcheting Medical Tourniquet — Tactical	Ratchet	The original ratcheting tourniquet, from the OEM that engineered the mechanism. Fine tension control in 1.5-inch and 2-inch band widths, plus a narrower pediatric variant in the same family.

If a spec sheet still calls for a TX2 or TX3, read this first.

Nothing was replaced. The TX name was one brand's expression of a ratcheting tourniquet that m2 inc has designed and manufactured under its own name the entire time — the company has been building ratcheting closures since 1994 and fielding the tourniquet since 2002. The TX branding was simply the more visible one for a period. The M2 line never went anywhere; it was the quieter product in the same category.

That is a marketing history, not a performance finding. Nothing was recalled, and a TX2 or TX3 already in a kit remains a viable ratcheting tourniquet through its stated service life. Do not pull working stock over a brand name.

Match by band width, not by brand: a 2-inch requirement is met by the M2 RMT 2 in; a 3-inch requirement is met by the RMT XL, sold as the TX-XL. The engineering is the same because the manufacturer is the same.

For procurement: an agency standardized on a TX Series device does not need to rewrite its requirement around a windlass. Ratchet-trained responders keep the mechanism they trained on, and the wide-band rationale that justified the original specification still holds.

A note on counterfeits: the C-A-T and SOF-T are among the most counterfeited tactical medical products in the world. Purchasing from an authorized distributor is the only way to guarantee authenticity. Counterfeit tourniquets fail in real-world applications and have been documented in case reports as contributing factors in preventable deaths.

Verify before you specify.

This list reflects the guidelines dated 01 May 2026. CoTCCC updates its Recommended Devices and Adjuncts list on a rolling basis. Confirm against the current published list before writing a procurement specification.

The Pediatric Gap

CoTCCC evaluates devices for combat casualties, and combat casualties are adults. That scope is reasonable and it is also a limit: **no limb tourniquet on the recommended list has been evaluated for patients under 120 pounds.** This is the clearest working example of the principle in Chapter 5 — absence from the list is a question about scope, not a verdict on the device.

The problem is mechanical, not theoretical. A 1.5-inch windlass tourniquet needs enough limb circumference to take up slack and still generate turns. On a small child's arm there may not be enough strap travel left to reach occlusion, and the windlass can bottom out against the limb before the bleeding stops. The same geometry problem appears at the other end of life, on the thin, fragile limbs of frail elderly patients.

m2 inc builds two civilian-configured versions of the same ratcheting mechanism for exactly this reason. Both print two-step instructions directly on the webbing so a minimally trained responder can apply them under stress, and both use the audible ratchet, micro-adjustment, self-locking strap, and built-in safety stop found on the tactical device.

Device	Patient	Configuration
RMT Civilian (red)	Over 120 lb / 55 kg	Adult civilian configuration on an 11-inch ladder strap — the largest closure range in the family. Roughly 4 oz, packs flat at about 9 inches. Built for public access kits where the responder may have no training beyond what is printed on the device.
RMT Pediatric / Geriatric (yellow)	Under 120 lb / 55 kg	Smaller 0.75-inch buckle on a shortened ladder strap, effective on limb circumferences down to 2.5 inches — well below where a standard windlass device becomes unreliable. Roughly 3.4 oz. High-visibility yellow so the small-patient device is identifiable by color inside a stocked kit.

Read this before you write it into a specification.

Neither civilian version carries a CoTCCC recommendation. The recommended list does not cover this patient population at all, so there is no listed alternative to compare against — the choice is a purpose-built small patient device or an adult device used outside its evaluated range.

This is a decision for your medical director, not for a procurement officer reading a list. Schools, pediatric clinics, youth athletic programs, camps, and assisted living facilities are the environments where it actually comes up.

Adding a small-patient tourniquet does not replace the adult device in the kit. It sits alongside it. A school kit holding only pediatric tourniquets cannot treat the adult staff member who is far more likely to be the one applying it.

Devices Outside the List

The devices below are **not** CoTCCC-recommended. They are listed because each has a documented basis for evaluation, and because the list above has not added a limb tourniquet since 2019. See *The Limits of the List* in Chapter 5.

Device	Origin	Basis for Evaluation
DNIPRO Gen 2	Ukraine	Windlass. Widely fielded by Ukrainian forces; published comparative occlusion testing against C-A-T Gen 7 and SOFTT-W Gen 4.
LST	Israel	Combined limb and junctional device. ISO 13485, FDA-listed, occlusion data from Shaare Zedek Medical Center. CoTCCC no longer names junctional products.

Device	Origin	Basis for Evaluation
XMETIX TAK710	Israel	Automated single-button device intended for untrained users. Device class postdates the 2019 evaluation.
Desmodus T-APH	Brazil	Windlass, ANVISA-registered, domestically manufactured. Addresses import access constraints in the Brazilian market.

Inclusion here is not a claim of equivalence to the recommended devices, and it is not a substitute for your own evaluation or your medical director's approval. It is a statement that these devices have a basis for assessment and should not be dismissed solely because they are absent from a list that has not added a limb tourniquet since 2019.

Appendix C

Hemostatic Agent Comparison Chart

Hemostatic dressings accelerate clot formation when packed directly into a bleeding wound. Combat Gauze is the CoTCCC hemostatic dressing of choice; the remaining entries are listed alternatives or adjuncts. They differ in mechanism, and mechanism is what should drive the selection for your likely patient population.

Product	Active Agent	Mechanism / Notes	Pressure
Combat Gauze	Kaolin	Activates the intrinsic clotting cascade via Factor XII — requires intact clotting factors. CoTCCC dressing of choice. Vacuum-sealed packaging.	≥3 min
Celox Gauze	Chitosan	Works independently of the clotting cascade by electrostatic aggregation of red cells and platelets. Retains effect in coagulopathic, anticoagulated, or hypothermic patients.	≥3 min
ChitoGauze	Chitosan	Strong adhesion to the wound surface. Effective in cold environments and on hypothermic casualties.	≥3 min
XStat	Compressed sponges	Injectable sponges for deep, narrow-tract junctional wounds not amenable to a tourniquet. Not removed in the field — additional dressings may be applied over it.	Optional
iTClamp	Mechanical closure	Adjunct that approximates wound edges to form a seal. May be used alone or together with a hemostatic dressing or XStat.	n/a

Hold time is the variable most often skipped in training. A dressing that is packed correctly and then released at ninety seconds to "check if it worked" has been wasted, because the clot forming at the vessel wall is disrupted. Pack, hold, and time it. If one dressing fails, remove it and pack a fresh one — of the same type or a different one.

XStat and the iTClamp are specialized devices. Both are appropriate for advanced providers with specific training and are generally not appropriate for general civilian or patrol kits.

Appendix D

About MED-TAC International

MED-TAC International Corp. is a clinician-founded, veteran-led, SDVOSB-certified provider of tactical medical equipment, training, and emergency preparedness solutions. The company is based in Pembroke Pines, Florida, and serves customers across military, law enforcement, fire and EMS, education, faith-based, corporate, and civilian preparedness markets.

MED-TAC was founded by Marco R. Torres, MD, NRP — physician and medical educator, U.S. Navy veteran, host of the Talking TACMED podcast, and founder of ALKEONHealth.com. The company's product selection and training curriculum are directly informed by the lessons of post-9/11 combat trauma care, translated into civilian and law enforcement contexts through TECC and current evidence-based practice.

What distinguishes MED-TAC from category competitors is the multi-brand curation model. Where most retailers stock a single manufacturer's catalog and recommend whatever that manufacturer produces, MED-TAC selects components based on evidence, field data, and clinical performance regardless of brand. This approach occasionally results in higher per-component cost; it consistently results in better-performing kits.

What MED-TAC Stands For

We curate best-in-class components based on evidence, not brand loyalty. We build for the worst day, not the best margin. We serve the people the industry ignored — under-resourced responders, serious civilians, and families who deserve tools that actually work. We are done watching people die from preventable injuries because someone decided preparedness was optional.

Appendix E

Kit Loadouts by Audience

Five loadouts, one for each application chapter in Part Three.

These are starter sets. They are not complete kits.

Nothing in this appendix is all-inclusive, and none of it is a finished answer. Each loadout is a **floor** — the minimum that addresses the M and the H of MARCH for that setting. It is where you start building, not where you stop.

What you add on top is driven by your training and scope of practice, your realistic evacuation timeline, your environment, your hazard profile, and how many casualties you could plausibly face at once. Those five variables move the answer more than any product choice does. *Building Past the Starter Set* at the end of this appendix covers what each one changes.

Quantities are floors, not ceilings. Substitute freely within a category — Appendix F compares bandages and dressings, Appendix C the hemostatic agents, Appendix B the tourniquets. Every loadout assumes the carrier has been trained on what is in it: a kit is a training artifact before it is a purchase.

Read this before you buy from any list, including this one.

Tourniquet placement is the same in every loadout below. Hasty (under threat, or source not found): high and tight over clothing. Deliberate (safe, wound visible): on skin 2–3 inches above the wound. Never across a joint. Tighten until bleeding stops and the distal pulse is gone, and mark the time.

A first-aid cabinet is not a bleeding control program. ANSI Z308.1-2021 adds a tourniquet to Class B kits only; Class A kits and older cabinets have none, and bandages and antiseptic do not stop arterial hemorrhage.

1. Law Enforcement — Patrol Officer

Two-part loadout. On-body is Tier 1 and exists to treat the officer or one casualty immediately. The vehicle kit is Tier 2 and is the multi-casualty reserve. An officer with only a vehicle kit has no kit during the ninety seconds that matter.

On-body — belt, carrier, or ankle

Item	Qty	Notes
Limb tourniquet (CoTCCC-recommended)	2	One accessible to either hand. Officers self-apply more often than they treat others; a single tourniquet on the support side is a single point of failure.

Item	Qty	Notes
Hemostatic gauze	1	For wounds not amenable to a limb tourniquet — junctional, neck, axilla. Requires the full pressure hold.
Compressed gauze	1	Wound packing and general use.
Emergency pressure bandage, 4 in	1	Secures packing and applies sustained pressure.
Vented chest seal, twin pack	1	Two seals. Penetrating trauma is rarely a single hole.
Nitrile gloves	1 pr	Sized to the officer, not to the kit.
Trauma shears, compact	1	Exposure is the first step of every intervention.
Permanent marker	1	Tourniquet time. Non-negotiable.

Vehicle — Tier 2 reserve

Item	Qty	Notes
Limb tourniquet (CoTCCC-recommended)	4	Active-threat response is a multi-casualty problem. Four is a floor.
Hemostatic gauze	2	
Compressed gauze	4	
Emergency pressure bandage	2	
Vented chest seal, twin pack	2	
Nasopharyngeal airway, 28 Fr, lubricated	1	Position the casualty first. Only if trained and authorized.
Hypothermia blanket	1	Hemorrhage plus exposure is a coagulopathy multiplier.
Casualty extraction strap or drag	1	Moving the casualty is a medical intervention.
Trauma shears, full size	1	
Nitrile gloves	4 pr	Multiple responders, multiple casualties.

2. Schools and Houses of Worship

Station-based, public-access, Tier 1. The design constraint is not capability — it is round-trip time. Place stations so that no point in the building is more than about a sixty-second round trip from one, then co-locate them with the AED so staff learn one location instead of two.

Item	Qty per station	Notes
Individual bleeding control kits	8	Eight is the common public-access configuration and assumes multiple simultaneous casualties.
Limb tourniquet (CoTCCC-recommended)	1 per kit	Windlass or ratchet. One-handed capable.
Small-patient tourniquet	Per medical direction	An elementary or middle school population sits largely under 120 lb, which is below the range any listed device was evaluated against. See *The Pediatric Gap* in Appendix B before specifying. This is an addition to the adult tourniquets above, not a substitute for them.
Compressed or hemostatic gauze	1 per kit	Hemostatic where staff are trained to hold pressure for the full three minutes.
Emergency pressure bandage	1 per kit	
Nitrile gloves	2 pr per kit	
Trauma shears	1 per kit	
Permanent marker	1 per kit	
Illustrated instruction card	1 per kit	The user may be a volunteer with one training session two years ago.
Wall cabinet and signage	1	Glass-front, unlocked, high-visibility signage. A locked cabinet is a decoration.

Do not lock these. Do not store them in the nurse's office only. Do not let the inventory lapse — run it quarterly against the schedule in Chapter 9.

3. Family and Vehicle

Tier 1, and the most likely of all five loadouts to be used on someone the carrier loves. The vehicle is the correct home for it: car crashes are the most probable severe-hemorrhage event most families will ever encounter.

Item	Qty	Notes
Limb tourniquet (CoTCCC-recommended)	2	One per limb pair. A single tourniquet assumes a single injury.

Item	Qty	Notes
Hemostatic gauze	1	
Compressed gauze	2	
Emergency pressure bandage	1	
Vented chest seal, twin pack	1	
Nitrile gloves	2 pr	
Trauma shears	1	Seat belts and denim.
Hypothermia blanket	1	Roadside exposure is real even in warm climates.
Permanent marker	1	
Window punch and seat-belt cutter	1	Access precedes treatment.
Headlamp or handheld light	1	Most crashes you stop for will be at night.

Carriage note: passenger compartment, not the trunk. A kit behind a jammed tailgate is not a kit. Accept that repeated heat cycling in a vehicle shortens adhesive life on chest seals and inspect them on the schedule in Chapter 9.

4. Wilderness, Overland, and Range

The distinguishing variable is not injury pattern — it is time. These are the environments where evacuation runs in hours, which makes this the one audience for whom the reassessment and conversion framework in Chapter 6 is an operational reality rather than an academic point.

Range — Tier 2

Item	Qty	Notes
Limb tourniquet (CoTCCC-recommended)	2	Gunshot wounds to extremities are the expected mechanism.
Hemostatic gauze	2	
Compressed gauze	2	
Emergency pressure bandage	2	
Vented chest seal, twin pack	2	Entry and exit.

Item	Qty	Notes
Nasopharyngeal airway, lubricated	1	Position the casualty first. Only if trained.
Hypothermia blanket	1	
Trauma shears, gloves, marker	1 set	

Wilderness and overland — add toward Tier 3

Item	Qty	Notes
Additional limb tourniquet	1	Redundancy scales with evacuation time, not with group size alone.
Wound irrigation and extended dressing supplies	1 set	Days, not minutes.
Moldable splint	1	Fractures become the dominant problem once bleeding is controlled.
Hypothermia bivy or casualty wrap	1	A blanket is not enough overnight.
Satellite communicator or PLB	1	Activating evacuation is a medical intervention.
Written evacuation plan and timeline	1	Decides whether conversion is even on the table.

5. Workplace and Industrial

Tier 1, hazard-driven. Loadout density should follow the hazard assessment rather than square footage: a facility with rotating machinery, blades, or press equipment carries an amputation and crush risk that an office floor does not.

Item	Qty per station	Notes
Limb tourniquet (CoTCCC-recommended)	2	Two per station near machinery with amputation potential. Bilateral injury is a documented pattern in machine entanglement.
Hemostatic gauze	1	
Compressed gauze	2	

Item	Qty per station	Notes
Emergency pressure bandage	2	
Vented chest seal, twin pack	1	Impalement and fragment injury.
Nitrile gloves	2 pr	
Trauma shears	1	Sized for workwear, not for T-shirts.
Permanent marker	1	
Amputation or avulsion kit	1	Where the hazard assessment identifies the risk.
Wall cabinet and signage	1	Mounted at the hazard, not at reception.

Placement drives outcome more than contents do. A station at the front desk of a plant serves the receptionist. Mount them where the machines are.

Building Past the Starter Set

Every loadout above is a floor. Five variables decide what goes on top of it, and they move the answer more than which brand you pick.

Variable	What It Changes
Training and scope of practice	The hard limit. Airway adjuncts, decompression, and medications belong only to responders trained and authorized to use them. An item you have not trained on adds weight, not capability — and under stress you will reach for it anyway.
Realistic evacuation timeline	The largest multiplier. Minutes to EMS means the floor is close to sufficient. Hours means wound care, hypothermia management, repeat dressings, monitoring, and the reassessment and conversion framework in Chapter 6 all become live requirements.
Environment	Cold drives hypothermia management. Heat and vehicle storage degrade adhesives and shorten replacement cycles. Water demands waterproof packaging. Remote terrain adds communications and a written evacuation plan to the kit itself.
Hazard profile	Match the kit to the mechanism you will actually see. Machinery means amputation and crush — more tourniquets and large-format dressings. Ballistic means chest seals and penetrating trauma. Blast means the large-format class in Appendix F.
Plausible casualty count	Multiply the hemorrhage-control items, not the whole kit. Four potential casualties need four tourniquets, not four of everything.

One variable sits above the other five: medical direction. For agencies, schools, workplaces, and any organization operating under protocol, your medical director governs what your responders may carry and use. This appendix informs that conversation. It does not replace it.

Appendix F

Pressure Bandage and Dressing Comparison

This is the category where kits are most often overbought and least well understood. Buyers stock six variations of the same thing and still have no way to hold pressure on a neck wound.

> **Nothing in this appendix clots blood.**
>
> Every device here is a **pressure** device. It holds packing in place and maintains compression. The clot is formed by the casualty's own physiology, helped by what you packed into the wound.
>
> For agents that actively accelerate clotting — kaolin and chitosan products — see Appendix C. The two categories are designed to be used together: the agent forms the clot, the bandage holds the pressure that lets it form.

Class 1 — All-in-One Pressure Bandages

Sterile pad, elastic wrap, and a pressure mechanism in one package. If a kit carries exactly one bandage, it comes from this class.

Bandage	Format	What Distinguishes It
Israeli Emergency Bandage	4 in, 6 in	The original all-in-one, and the benchmark every other design is measured against. Pressure applicator bar plus closure bar, applied one-handed. Simple enough that retention survives infrequent training.
Israeli T3	4 in	Multi-function version of the same pattern, integrating additional capability into the standard 4 in footprint.
OLAES Modular Trauma Dressing	4 in, 6 in, 4 in flat	The most capability per package: pressure cup, a removable occlusive sheet, and 3–4 m of wound-packing gauze folded inside the pad itself. One package covers packing, pressure, and an improvised occlusive layer.
Emergency Trauma Dressing (ETD)	4 in, 6 in, flat-packed	Designed against 63 real-world after-action reviews. The flat-packed version carries the same capability at roughly half the depth — the practical choice for slim ankle and belt-line carriage.
Mini Responder ETD	4 in	Lightest in the family at 2.0 oz. Pocket, ankle, and range-bag carry where a full bandage will not be carried at all.
TacMed Compact Trauma Bandage	Compact	A complete pressure dressing in the smallest practical footprint. Volume-buy candidate for public-access stations.

Bandage	Format	What Distinguishes It
MARCH Battle Bandage	4 in x 6 ft wrap; 8 x 8 in pad; 2.5 oz flat	The only design in this class you can reassess without taking it down. A transparent self-adhesive elastic wrap over an integrated 8 x 8 in sterile pad — bleed-through and limb color are visible through the dressing, so serial checks during a long evacuation cost you nothing and risk no clot. No clips, bars, or hook-and-loop to fail: the wrap bonds to itself on each pass, which still works in cold, in gloves, and with degraded dexterity. The 8 x 8 in pad also covers more than a standard 4 in bandage.
Dyna-Stopper	6 in	Cost-controlled alternative to the Israeli pattern. Reasonable for high-count station builds where per-unit cost governs; not the choice for a primary on-body bandage.

Class 2 — Large-Format: Amputation, Abdominal, and Blast

A 4 in pad does not cover a traumatic amputation or an abdominal wound. Any kit written against blast, machinery, or high-speed mechanisms carries one of these.

Bandage	Coverage	Intended Wound
Israeli 8 in Large Wounds	12 x 12 in pad	Largest of the Israeli pattern. Amputations and large-surface wounds.
Stump / Abdominal ETD	12 x 12 in pad on 6 in wrap	The largest ETD. Purpose-built for stumps and abdominal wounds.
ETD 8 x 10 in	8 x 10 in pad	The intermediate step between a standard bandage and a full abdominal dressing.
TacMed BLAST Combat Wound Bandage	20 x 20 in treatment area	The highest coverage-to-bulk ratio in the category — a 20 x 20 in treatment area in the packed footprint of a 4 in bandage. Blast, burn, and large pattern wounds.

Evisceration reminder: do not push organs back in. Cover with a moist sterile dressing and an occlusive layer over it. See Chapter 6.

Class 3 — Targeted Pressure for Junctional Wounds

This class solves a problem the other four cannot. At the neck, axilla, groin, and stump, circumferential wrapping is either impossible or actively dangerous — you cannot wrap a neck tightly enough to hold pressure without occluding an airway or a carotid. This is the failure point where most kits quietly have no answer, and it is the exact anatomy where a limb tourniquet also does not apply.

Device	Format	What Distinguishes It
HEMGUARD Targeted Pressure Bandage	4.5 x 9.75 x 1.5 in packed; 5-year shelf life	A targeted pressure head delivers downward force onto packed gauze, with a 4-way anchoring system that holds position without a full circumferential wrap. Pressure can be redirected in multiple directions and anchored up to four ways, which is what keeps it seated on curved and mobile surfaces during casualty movement. Developed by an Army Special Operations medic against the limits of existing bandages.

Built to work with a hemostatic agent. That pairing is the design.

HEMGUARD is a **pressure and retention** device, and that is its strength. Pack the wound with the hemostatic agent of your choice from Appendix C, then let HEMGUARD hold that packing under sustained downward pressure through movement and evacuation. The agent does the clotting. HEMGUARD makes sure it stays where you put it, under the load it needs, for as long as it needs.

A hemostatic agent requires three to five uninterrupted minutes of hard direct pressure to work. HEMGUARD delivers that mechanically and gives you both hands back — which is the difference between treating one casualty and treating the next one. That is a capability no amount of gauze buys you.

Class 4 — Elastic Wraps

No pad, no pressure mechanism. These are secondary compression and retention only. An elastic wrap is not a substitute for a pressure bandage and is never the primary dressing on an arterial bleed.

Wrap	Format	What Distinguishes It
Slishman Pressure Wrap	Ultralight elastic	Engineered against the failure mode that defines this class — it does not unravel once tension is on. Also fielded for K9 application.
MARCH Battle Wrap	Transparent self-adhering	Clear material lets you watch the wound bed through the wrap without taking it down. Tested to 5,000 psi tensile strength. Wrap only — for the version with an integrated sterile pad, see the MARCH Battle Bandage in Class 1.
TacMed Control Wraps	4 in, 6 in	Built-in anti-unroll brakes. The cost-effective bulk option for kit builds.
Elastic Wrap Bandages	2, 3, 4, 6 in; flat option	The general-purpose workhorse across four widths. Flat-packed version for slim kits.

Wrap	Format	What Distinguishes It
AIRWRAP	4 in, 6 in, inflatable bladder	Specialty. An inflatable bladder allows compression to be dialed up or released without unwrapping — relevant where reassessment is expected.

Class 5 — Packing Gauze

The item that actually goes into the wound. A bandage holds pressure on the outside; gauze fills the cavity and reaches the bleeding vessel. Kits routinely carry three bandages and one gauze, which is backwards for any wound that requires packing.

Gauze	Format	Notes
Compressed Gauze	4 yd, vacuum-packed cube	Maximum packing length in minimum volume. The default plain-gauze choice.
S-Rolled Gauze	4.5 in x 4.1 yd, S-roll dispenser	The S-fold feeds in a controlled way from the package, which matters when one hand is holding pressure.
Wound Packing Gauze	3 in x 5 yd Z-fold, 1-ply, 1.2 oz	**The only gauze in this class with an embedded X-ray detectable line.** Packing left in place travels with the casualty into the operating room, and the radiopaque thread is how the surgical team confirms all of it came out. At 3 inches it is also the narrowest strip here, which is what lets it enter a small penetrating wound that a 4.5-inch roll fights. Vacuum-packed to 3 x 2 x 1 in. NSN 6510-01-695-5824.
Ready Gauze	4 in x 4.1 yd Z-fold, 4-ply, 2 oz	Carries a preformed **Ready Ball** built into the gauze during manufacture. Grip the ball, pull, and the strip deploys behind it with the dense mass already at the leading tip — removing the hand-bunching step described below. Surgrip flat-pack gives a textured, slip-resistant surface for gloved or blood-slick hands. Five-year shelf life. Plain gauze, no clotting agent.
Safeguard Compressed Gauze	6-ply crinkle cotton, vacuum-packed	Crinkle weave adds bulk and friction inside the wound cavity.
Hemostatic gauze	See Appendix C	Kaolin and chitosan impregnated products are compared separately in Appendix C. They are packed the same way and still require the full uninterrupted pressure hold.

The step that fails is the one before insertion.

Packing works by driving a dense leading mass of gauze down to the bleeding vessel and feeding the rest in tightly behind it. Flat, unbunched gauze fed into a cavity fills it loosely, never seats against the vessel, and looks finished while the patient keeps bleeding.

Building that leading mass by hand is a fine-motor task, and it gets performed at the worst possible moment — gloved, blood-slick hands, dexterity degraded by adrenaline or cold, and a provider who may have last practiced the skill in a classroom months ago. It is a small step and a reliable place for the sequence to break.

A preformed leading mass removes that step. It does not make an untrained provider effective, and nothing after insertion changes: pack the cavity tightly and completely, then hold firm continuous pressure until bleeding is controlled.

Three minutes is a hemostatic standard, not a plain-gauze one.

The three-minute hold is a CoTCCC standard for hemostatic dressings, which need a sustained compression interval for the agent to work. Every gauze in this class except the hemostatic row is plain gauze.

For plain gauze the standard is to hold firm manual pressure until hemorrhage is controlled. Three minutes is a sensible working floor, not a stopping point. If it is still bleeding at three minutes, keep holding.

Do not pack an open chest wound — penetrating thoracic trauma gets a chest seal. A deep junctional wound routinely consumes a full pack or more, so one unit per kit is a training assumption rather than a field one.

Choosing Without Overbuying

If you need...	Take
One bandage for a general-purpose kit	Israeli Emergency Bandage or ETD, 4 in or 6 in. Both are simple enough to survive infrequent training.
Packing gauze, pressure, and an occlusive layer in one package	OLAES Modular. Highest capability density in the category.
The slimmest possible on-body profile	ETD Flat-Packed, Mini Responder ETD, or TacMed Compact.
To reassess the wound repeatedly without disturbing it	MARCH Battle Bandage. Transparent wrap — the practical answer when evacuation runs long and Chapter 6 reassessment is a live requirement, not a formality.

If you need...	Take
Packing gauze for responders who train infrequently	Ready Gauze. The preformed Ready Ball removes the one fine-motor step most likely to be skipped by a provider working from months-old training.
Packing that will stay in the wound through surgery	Wound Packing Gauze. The X-ray detectable line is how the receiving team confirms nothing was left behind.
To hold pressure on a neck, axilla, groin, or stump	Hemostatic packing plus HEMGUARD — the purpose-built pairing for junctional sites, where circumferential wrapping does not work.
Coverage for an amputation, abdominal wound, or blast injury	Class 2 large-format. A 4 in pad will not do it.
To reinforce a dressing already in place	Class 4 elastic wrap — as reinforcement only, never as the primary dressing.

Counterfeit warning applies hardest to this category.

The Israeli-pattern bandage is one of the most widely counterfeited items in tactical medicine. Copies fail at the pressure bar and at the elastic under load — the two components that do the work.

Buy from the manufacturer or an authorized distributor, verify lot and expiration on receipt, and apply the same verify-before-specify standard set out in Appendix B.

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