

2026 MILITARY HEALTH SYSTEM RESEARCH SYMPOSIUM

Implementation, Challenges & Outcomes of Military Medical Research during Active Conflict

Operational User Assessment of XSTAT P30 for Hemorrhage Control

Ukrainian Combat and Emergency Care Environments

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NON-DISCLOSURE & DISCLAIMER

Non-Disclosure

John Steinbaugh has no conflicts to disclose.

Funding & Disclaimer

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The Problem and the Device

Uncontrolled hemorrhage remains a leading cause of preventable death in combat trauma.

Deep, junctional, and narrow-tract wounds are difficult to control with tourniquets or traditional gauze packing, particularly at the point of injury and during prolonged evacuation.

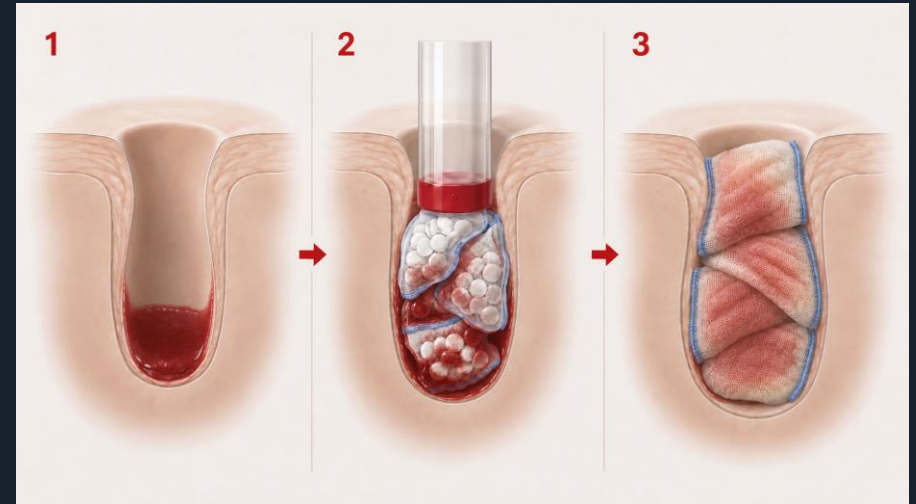
Technologies that deliver rapid intrawound hemostasis are critical to improving survivability where definitive surgical control is not feasible.



XSTAT P30

FDA-cleared for junctional & extremity trauma (K210676)

- Injectable, self-expanding compressed cellulose minisponges create instant intrawound tamponade.
- Three porous, radiopaque pouches encapsulate the sponges for easy visualization and removal.
- Builds on the original XSTAT (fielded 2015; TCCC guideline, JTS CPG #18, USSOCOM standard issue).
- NSN 6510-01-644-7335



XSTAT P30 applicator with three expandable mini-sponge pouches.



OBJECTIVE

Evaluate the operational use of XSTAT P30 by Ukrainian combat medics, emergency responders, and hospital personnel—capturing perceived performance, safety, and usability in forward and austere environments.



Research strategy

Assess hemorrhage-control technology through U.S.–Ukraine collaboration during active conflict.



Interim findings

Characterize operational user assessments in combat and evacuation settings.



Operational limitations

Surface the logistical constraints of research during prolonged active conflict.



MATERIALS & METHODS

Retrospective Operational User-Survey Program

1

Distribute & train

Devices, training manikins, and applicators delivered via Ukrainian training centers and operational units; train-the-trainer model.

2

Optional field use

Users apply XSTAT P30 entirely at their own discretion during real casualty care — no protocolized use.

3

Anonymous survey

After use, participants voluntarily complete a short survey rating performance, safety, usability, packaging, and removal.

4

Aggregate & analyze

Responses de-identified and compiled by AGU/RevMedx. No patient data or clinical outcomes.

Sites & Scope



TCCC Training Centre Eastern Ukraine

Integrated into a combat medic course.



ARCEM — Various locations

Resuscitation & emergency-medicine training center for the Ukrainian Army.



Global Response Medicine mobile teams

Rapid-response teams operating across multiple sites nationwide.

Target: ≥ 30 user surveys • 16-month program



RESULTS • QUANTITATIVE

Consistently High Ratings Across Attributes

Mean user rating $\pm$ 1 SD (1 = Poor / Disagree, 5 = Excellent / Agree)

30

operational user surveys collected

combat, CASEVAC, rescue & hospital use

30/30

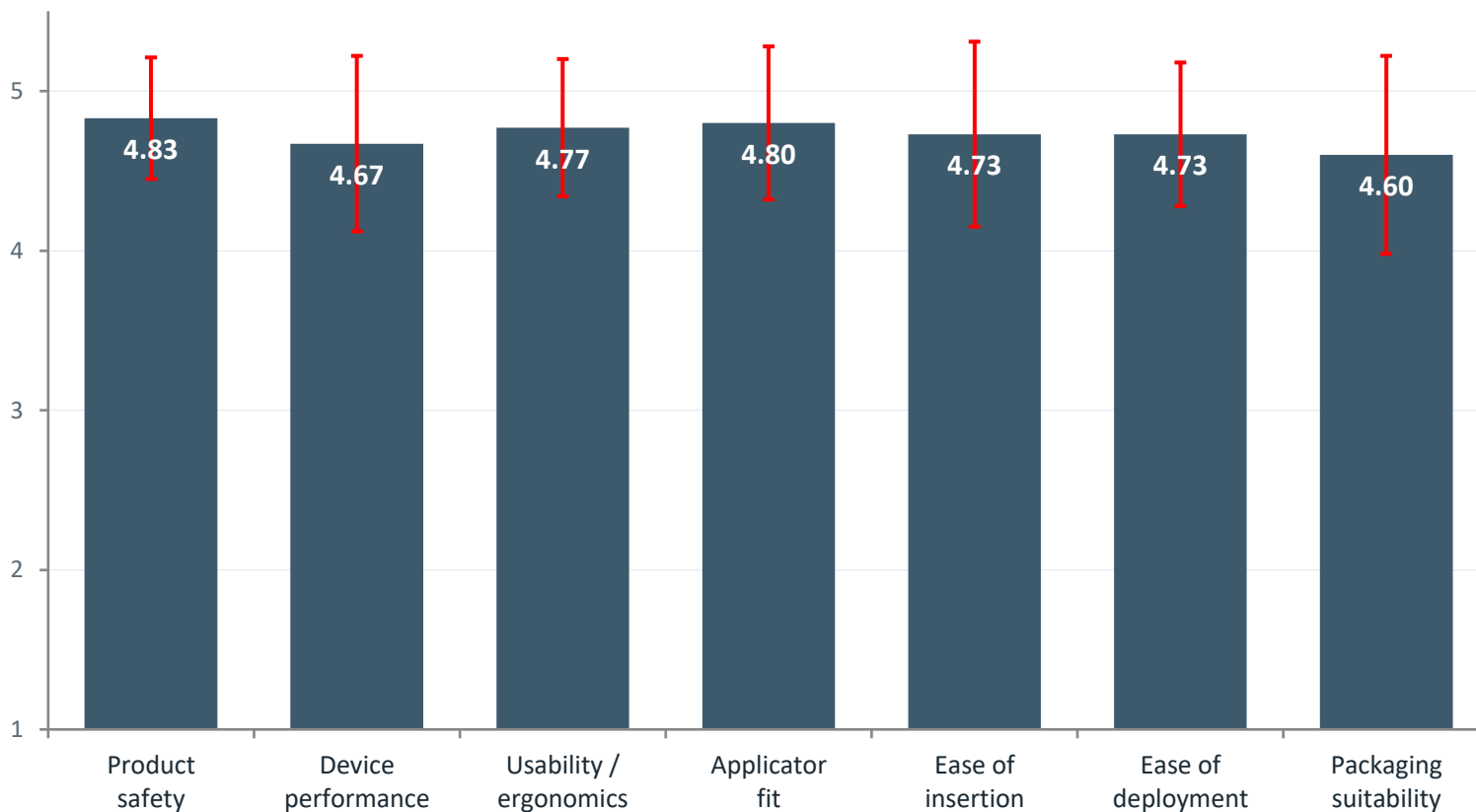
reported successful hemostasis

hemorrhage controlled after deployment

~1-5 min

typical time to hemostasis

self-reported by users



98% of all ratings were 4-5 (top-2-box) • n = 30 for every item



Ratings, Dispersion & Response Distribution

Attribute	n	Mean ± SD	Med.	4–5
Product safety	30	4.83 ± 0.38	5	100%
Device performance	30	4.67 ± 0.55	5	97%
Usability / ergonomics	30	4.77 ± 0.43	5	100%
Applicator fits wound	30	4.80 ± 0.48	5	97%
Applicator easy to insert	30	4.73 ± 0.58	5	93%
Sponge pouches deploy	30	4.73 ± 0.45	5	100%
Package easy to open	30	4.80 ± 0.48	5	97%
Packaging suitability	30	4.60 ± 0.62	5	93%
Label — purpose clear	30	4.93 ± 0.25	5	100%
Label — info complete	30	4.90 ± 0.31	5	100%
Composite (all items)	300	4.78 ± 0.47	5	98%

Analysis notes

- **Scale**
5-point Likert (1 = Poor/Disagree → 5 = Excellent/Agree); n = 30 on every item.
- **Central tendency**
Every attribute median = 5; a pronounced ceiling effect.
- **Dispersion**
SD 0.25–0.62; widest for packaging suitability & insertion — the design-signal items.
- **Acceptance**
Top-2-box ≥ 93% on every item; 98% overall (n = 300 ratings).
- **Caveat**
Ordinal, self-reported, voluntary; not powered for efficacy inference.

4–5 = top-2-box (share of respondents rating 4 or 5). All items answered by every respondent (n = 30).



What Users Told Us in the Field



Excels in hard-to-pack wounds

Repeatedly described as effective and especially valuable for deep or narrow wounds hard to control with traditional gauze packing.



Tourniquet conversion

Used during tourniquet conversion in prehospital settings where surgical control was not feasible, sustaining bleeding control after tourniquet release.



Rapid & reliable

Fast hemostasis with high safety; used at point of injury, on evacuation, and at stabilization points, including through-and-through wounds.



The patient had a through-and-through wound, so we used XSTAT P30 for the exit wound and XSTAT 12 for the entry wound. Together they helped us save a lot of time and stop the bleeding. They are hard to find, but they have proven excellent efficiency.

— Ukrainian combat medic, prehospital use (Aug 2025)



IMPLEMENTATION CHALLENGES

Conducting Research Inside an Active War Zone



Degraded connectivity

Attacks on power & telecom infrastructure interrupt digital survey completion and follow-up with device recipients.



Operational security

OPSEC constraints limit unit identification, location detail, and the granularity of data that can be safely collected.



Shifting front lines

Frequent redeployment and evolving missions disrupt follow-up and break lines of accountability with recipients.



Documentation burden

Even brief surveys compete with casualty care; medic fatigue and administrative load defer or prevent completion.



Net effect: Escalating Russian strikes forced distribution/training delays, and a gap opened between strong unit-level demand and the volume of surveys returned; shaping realistic expectations for battlefield data capture.



DISCUSSION

Interpreting the Interim Signal



What the feedback supports

- Strong acceptance and high usability across every attribute in real operational use.
- XSTAT P30 shows clear value in junctional and deep-tract wounds that resist traditional gauze packing.
- Practical utility in tourniquet conversion during prolonged prehospital evacuation.

Feedback for potential design refinement

- Applicator can slip with gloves — users suggest a textured grip.
- Packaging harder to open with tactical gloves.
- Requests for additional sizes to accommodate wide range and depth of injuries



Interpret with caution

- Self-reported perceptions—no clinical outcomes, imaging, or patient-level data by design.
- Voluntary, non-random sampling; potential positive-response bias.
- Interim n = 30; not powered for efficacy or comparative claims.
- Battlefield conditions constrain completeness and follow-up.



CONCLUSIONS

1

Strong operational acceptance

Early feedback shows robust acceptance of XSTAT P30 among Ukrainian medical personnel across the evacuation chain.

2

Effective in austere combat care

Supports effectiveness for hemorrhage control at the point of injury and during prolonged evacuation—especially for difficult-to-pack wounds.

3

Findings drive the next step

Post-study results will inform device design refinements and decisions on broader military adoption.



Bottom line: Enterprise procurement and standardized fielding of XSTAT P30 & XSTAT P15* would institutionalize intrawound hemorrhage-control capability and improve survivability.

** XSTAT P15 was cleared (K253290) in November 2025 and production released in June 2026, replacing the XSTAT-12 widely fielded in Ukraine.*



What This Talk Delivered



01

Research strategy

Describe how hemorrhage-control technology was evaluated through U.S.–Ukraine medical collaboration during active conflict.



02

Interim findings

Analyze interim results from operational user assessments of intrawound hemorrhage-control devices in combat and evacuation environments.



03

Operational limitations

Discuss the logistical and operational limitations of conducting medical research during prolonged active conflict.

Questions welcome during the session Q&A.



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