BloodSTOP iX Trauma Matrix Improves Hemorrhage Control and Survival Compared to Combat Gauze in Anticoagulated Large-Animal Models

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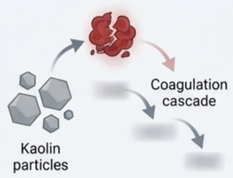
Introduction

QuikClot Combat Gauze (CG)

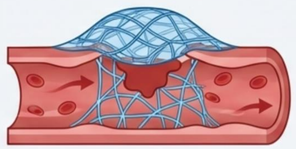


Mechanism: Relies on intact clotting factors.

Vulnerability: Ineffective in coagulopathy.

Outcome: Unstable clot, re-bleeding, high mortality.

BloodSTOP iX Trauma Matrix (TM)



Mechanism: Coagulation-independent **mechanical seal** + bioactive scaffolding.

Strength: Retains efficacy even when coagulation is impaired.

Outcome: Stable seal, durable hemostasis, 100% survival.

Materials & Methods

Group	Model Type	Animal Number	TM Size	Anticoagulant	Observation	Key Endpoint
A	Splenectomy	12	3×24 inch	None	3 h	Hemostasis and total blood loss
B	Splenectomy	12	2×12 inch	None	3 h	TM size comparison
C	Femoral artery hemorrhagic shock	12	2×12 inch	Plavix	3 h / 16 h	Controlled blood withdrawal, anticoagulated hemostasis
D	Femoral artery hemorrhagic shock	4	3×24 inch	Heparin	3 h / 16 h	Severe anticoagulated bleeding

A total 40 pigs were randomly into two cohorts: TM and CG

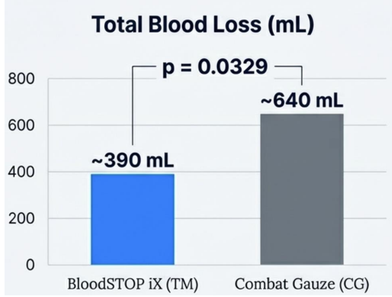
Results

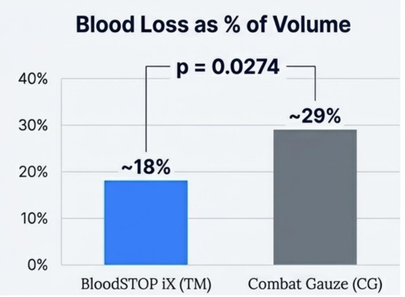
BloodSTOP iX Achieved 100% Hemostasis Success, Significantly Outperforming Combat Gauze

8 animals in the CG group failed to achieve hemostasis and required rescue, versus zero failures for TM.

Superior Hemostasis with TM Translated Directly to Significantly Reduced Blood Loss

TM's effective seal preserves critical blood volume, a key factor in preventing hemorrhagic shock.





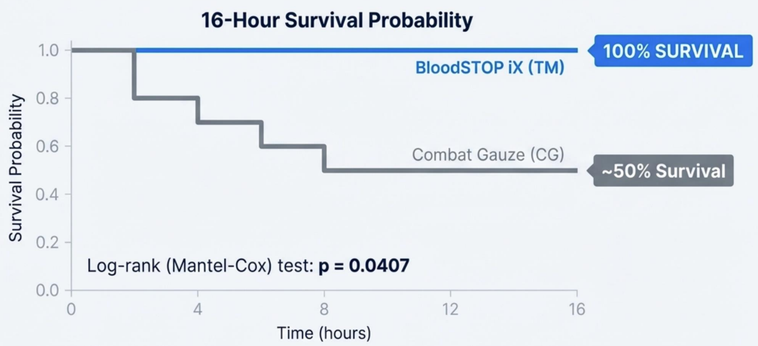
TM Maintains 100% Efficacy in Anticoagulated Models, While CG Fails Catastrophically

Data from femoral artery hemorrhage model with platelet inhibition (Plavix) and systemic anticoagulation (Heparin).

Metric (3-hr Anticoagulated Model)	BloodSTOP iX	Combat Gauze
Hemostasis Success	100% ✓	25%
Continuous Bleeding	0% ✓	25%
Mortality	0% ✓	50% ☠

Conclusion: TM's coagulation-independent mechanism provides reliable hemorrhage control when conventional clotting is impaired. Cumulative blood loss was also significantly lower in the TM group (**p = 0.0419**).

The Survival Benefit is Sustained: 100% of TM-Treated Animals Survived at 16 Hours



TM provides superior, sustained hemorrhage control that translates directly into long-term survival.

Conclusion

TM demonstrated **higher hemostasis success rate** compared to CG and resulted in **reduced total blood loss** in both, absolute and percentage of estimated blood volume (TM ~18% vs. CG ~29%)

TM maintained **higher and more stable mean arterial pressures** compared to CG, indicating **better preservation of hemodynamic function**

TM achieved **100% survival at 3 hours and 16 hours post-injury,** whereas CG-treated animals experienced increased mortality, stabilizing at approximately 50% by 16 hours

Thank you & Questions

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