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QUIKCLOT COMBAT GAUZE® ATTRIBUTE GUIDE

ATTRIBUTES	QuikClot Combat Gauze®	CELOX™ Gauze	XSTAT®	ChitoGauze®	CELOX™ RAPID (Not CoTCCC Recommended as of 2019)
CoTCCC Recommended since **2008** as the **hemostatic dressing of choice**. [1]	**YES**	NO	NO	NO	NO
Activates Factor XII in the clotting cascade. [2]	**YES**	NO	NO	NO	NO
Accelerates body's **natural clotting** mechanism. [2,3]	**YES**	NO	NO	NO	NO
Numerous independent studies verifying **clot stability**. [4,5,6]	**YES**	NO	NO	NO	NO
Contains **no animal/shellfish** products. [7,8,9,10]	**YES**	NO	YES	NO	NO
Hemostatic dressing with the most peer-reviewed (**Military & Civilian**) published clinical literature. [11]	**YES**	NO	NO	NO	NO
Independently **safety tested** for risk of thrombi/emboli post vessel repair. [12]	**YES**	NO	NO	NO	NO
Comprehensive product line from **Point of Injury** (QuikClot Combat Gauze®) to Surgical Care (internal organ space - QuikClot Control +®) in the US. [13]	**YES**	NO	NO	NO	NO

1. Tactical Combat Casualty Care Guidelines 1 Aug 2018. https://deployedmedicine.com/content/40. Accessed January 16, 2019.
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3. Trabattoni D, Montorsi P, Fabbiocchi F, Lualdi A, Gatto P, Bartorelli AL. A new kaolin-based haemostatic bandage compared with manual compression for bleeding control after percutaneous coronary procedures. *Eur Radiol.* 2011;21:1687-1691
4. Garcia-Blanco J, Gegel B, Burgert J, Johnson S, Johnson D. The effects of movement on hemorrhage when QuikClot® Combat Gauze™ is used in a hypothermic hemodiluted porcine model. *J Spec Oper Med*. 2015 Spring;15(1):57-60.
5. Johnson D, Westbrook DM, Phelps D, Blanco J, Bentlye M, Burgert J, Gegel B. The effects of QuikClot Combat Gauze on hemorrhage control when used in a porcine model of lethal femoral injury. *Am J Disaster Med.* 2014 Fall; 9(4):309-315.
6. Gegel B, Burgert J, Gasko J, Campbell C, Martens M, Keck J, Reynolds H, Loughren M, Johnson D. The effects of QuikClot Combat Gauze® and movement on hemorrhage control in porcine model. *Mil Med.* 2012; 177.12: 1543-1547.
7. CELOX™ http://www.celoxmedical.com/wp-content/uploads/Celox-Gauze-Z-Fold-data-sheet.pdf. Accessed January 16, 2019.
8. QuikClot® https://quikclot.com/QuikClot/About-QuikClot. Accessed January 16, 2019.
9. XSTAT® https://www.revmedx.com/xstat. Accessed July 30, 2019
10. ChitoGauze® https://www.accessdata.fda.gov/cdrh_docs/pdf15/K153582.pdf. Accessed June 26, 2019
11. Boulton AJ, Lewis CT, Naumann DN, Midwinter MJ. Prehospital haemostatic dressings for trauma: a systematic review. *Emerg Med J.* 2018; 35: 449-457.
12. QuikClot® https://quikclot.com/QuikClot/Products. Accessed January 16, 2019.
13. Kheirabadi B, Mace J, Terrazas I, Fedyk C, Estep J, Dubick M, Blackbourne L. Safety Evaluation of New Hemostatic Agents, Smectite Granules, and Kaolin-Coated Gauze in a Vascular Injury Wound Model in Swine. *J Trauma.* 2010 Feb;68(2):269-78.

This attribute guide was created by referencing the sources listed above. No head-to-head clinical trials were conducted to develop this attribute guide.

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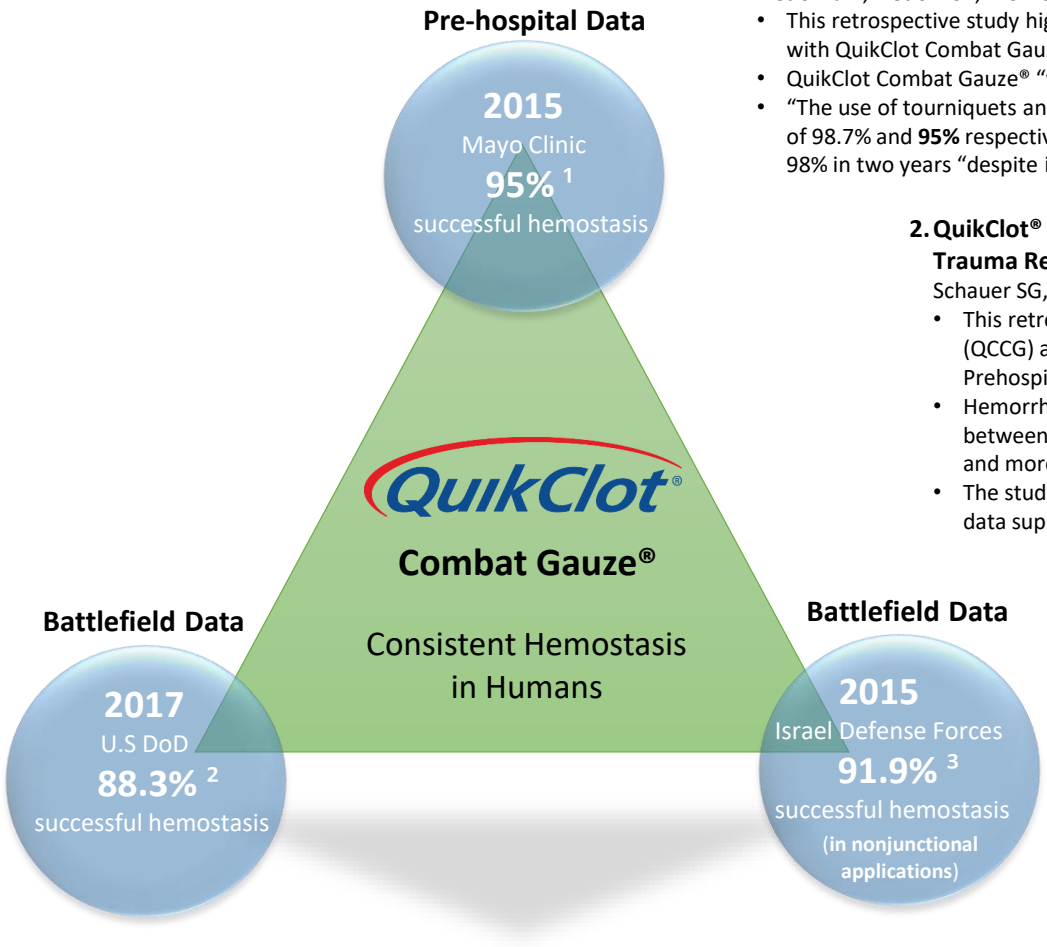
IT'S QUIKCLOT OR IT'S NOT



1. **Prehospital Use of Hemostatic Bandages and Tourniquets: Translation from Military Experience to Implementation in Civilian Trauma Care.**
   Zietlow JM, Zietlow SP, Morris DS, Berns KS, Jenkins DH. *J Spec Oper Med.* 2015;15(2):48-53
   - This retrospective study highlights the use of 62 QuikClot Combat Gauze® dressings in 52 patients. The injuries treated with QuikClot Combat Gauze® were 50% head and neck, 35% penetrating wounds, and 15% other mechanisms of injury.
   - QuikClot Combat Gauze® "was highly successful at stopping bleeding, with 59 of 62 injuries (95%) achieved hemostasis."
   - "The use of tourniquets and hemostatic gauze in pre-hospital civilian care is safe and highly effective, with success rates of 98.7% and **95%** respectively." The authors note the importance of initial training and that skills are maintained at 98% in two years "despite infrequent use of only about two times per month."

2. **QuikClot® Combat Gauze® Use by Ground Forces in Afghanistan the Prehospital Trauma Registry Experience.**
   Schauer SG, April MD, Naylor JF, et al. *J Spec Oper Med.* 2017;17(2):101-106
   - This retrospective study compared outcomes between patients treated with QuikClot Combat Gauze® (QCCG) and those who were not (but were treated using other means) based on data from the Prehospital Trauma Registry (PHTR) and DoD Trauma Registry (DODTR).
   - Hemorrhage was controlled **88.3%** in the QCCG group. No statistical difference was seen in survival between QCCG and non-QCCG patients; however, QCCG patients had higher rates of gunshot wounds and more severe injuries or sickness than the non-QCCG group.
   - The study concludes that the "success rates for hemostatic control compared with other published data support the use of QCCG in the prehospital combat setting."

3. **Prehospital use of hemostatic dressings by the Israel Defense Forces Medical Corps: A case series of 122 patients.**
   Shina A, Lipsky AM, Nadler R, et al. *J Trauma Acute Care Surg.* 2015;79(4):S204-S209
   - The study compiled 122 prehospital cases where QuikClot Combat Gauze® (QCG) was applied 133 times between January 2009 and September 2014 by the Israeli Defense Forces.
   - Injuries were penetrating (85.2%), blunt (3.3%) and combined (11.5%).
   - "Hemorrhage control with the hemostatic dressing was reported to be successful in 88.6% of junctional applications and in **91.9%** of nonjunctional applications. These results suggest that the QCG is an effective tool for hemorrhage control in both junctional and nonjunctional injuries."
   - "Of note, in five patients, successful dressing application [QuikClot] was used after tourniquet failure."

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