



To: Highest Jurisdictional Officials  
Commercial Ambulance Services Directors  
EMS Medical Directors

From: Timothy Chizmar, MD  
State EMS Medical Director

Date: December 4, 2024

RE: Hemorrhage Control with Hemostatic Agents

We recognize that hemorrhage control for injured patients is of paramount importance. Whether the bleeding is controlled with a gloved hand, gauze, or a tourniquet, every minute counts for these patients.

While most bleeding can be controlled with prompt application of direct pressure and gauze, there are some wounds that may prove to be more challenging to manage (e.g. torso or neck wounds). For many years, the *Maryland Medical Protocols for EMS* have included hemostatic gauze as an option for such wounds. Previously, the safety profile of hemostatic agents in other forms (e.g. powder, spray) was less than clear.

However, there are an increasing number of hemostatic agents in various forms available to the EMS community. Therefore, we reviewed some of these products with groups of experts in trauma surgery and emergency medicine over the past year.

**As a result of this assessment, Maryland EMS clinicians may now utilize a chitosan- or kaolin-based hemostatic agent, which is FDA-approved or FDA-cleared, for hemorrhage control.** The hemostatic agent may be embedded in gauze or packaged in another form (e.g. spray or gel). Individual hemostatic products should be reviewed with county or service medical directors prior to implementation. The 2025 Protocols will reflect this addition in the Appendix 9.2 – Procedures, Medical Devices and Medications for EMS section.