



## ARC SAC ADVISORY Hemostatic Agents

### **Overall Recommendation:**

The role of hemostatic agents for use in first aid for severe, life-threatening hemorrhage was recently reviewed by the Red Cross Scientific Advisory Council (SAC). It is likely that hemostatic agents, in the form of gauze dressings, injectable mini-sponges, and future foams or sprays, will be increasingly available in settings where people are at risk of sustaining bleeding wounds. The previous review recommended their use only be by persons with training, and that it seemed “appropriate to recommend that all training in first aid bleeding control techniques address the role of these materials as adjuncts to the primary treatment of direct pressure for bleeding wounds”.

In summary, there is now a well-established body of evidence to demonstrate the effectiveness of hemostatic gauze. It remains difficult, due to data quality, to determine superiority of an individual hemostatic gauze product. Newer, injectable self-expanding gauze sponge products show great promise for both ease of use and functional ability to stop bleeding.

It is the overall assessment by the SAC that hemostatic dressings appear to be effective in the control of bleeding, when compared to regular gauze and in situations not amenable to tourniquet use. Additionally, no evidence was identified to suggest that use of plain gauze should be taught preferentially to First Aid practitioners instead of hemostatic dressing use. It is important to note that the scope of the latest review did not include public health considerations, such as material cost, shelf life, etc. that would have an important impact on any eventual First Aid training recommendations.

### **Recommendations:**

**Standards:** n/a

**Guidelines:** *We suggest the use of a hemostatic dressings in cases of life-threatening external hemorrhage not amenable to treatment by tourniquet.*

**Options:** n/a

### **Questions to be addressed:**

Is the use of hemostatic agents by the civilian layperson community and trained responders effective, appropriate and applicable in the out-of-hospital setting?

### **Introduction/Overview:**

The 2015 TR found no studies to directly assess the use of hemostatic agents by lay or minimally trained first aid providers. This topic was reviewed again in June 2019 by the Red Cross Scientific Advisory Council. The studies added to the 2019 TR included gauze-based and injectable mini-sponge delivery systems for hemostatic agents.

**Summary of Scientific Foundation:**

A 2018 systematic review of hemostatic agents (Boulton, Emerg Med J) used in 809 patients found a median reported cessation of bleeding in 90.5%. Another recent study (Goolsby C, et al, 2019) looked specifically at the population of minimally trained/lay responders and demonstrated their ability to use gauze folded in a manner similar to hemostatic gauze was as effective as regular gauze. This study did conclude that this population was most successful using an injectable mini-sponge material as opposed to a material that required manual packing into a simulated cavitory wound. The other studies included in the 2019 TR yielded a demonstrated an increase in the body of scientific literature to support the efficacy, safety and benefit of hemostatic agents.

In summary, there is a well-established body of evidence to demonstrate the effectiveness of hemostatic gauze. It remains difficult, due to data quality, to determine superiority of an individual hemostatic gauze product. Quick Clot Combat Gauze appears to be the most frequently encountered hemostatic gauze. Newer, injectable self-expanding mini sponge products show great promise for both ease of use and functional ability to stop bleeding. It is our overall assessment that hemostatic dressings appear to be effective in the control of bleeding, when compared to regular gauze and in situations not amenable to tourniquet use. Additionally, we did not find evidence that suggests plain gauze should be taught preferentially to First Aid practitioners instead of hemostatic dressing use. It is important to note that the scope of this triennial review did not include public health considerations, such as material cost, shelf life, etc. that would have an important impact on any eventual First Aid training recommendations.