

# Sharp Debridement in the Wound Center: Control of Bleeding

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## Background

Wound debridement is considered essential for appropriate wound bed preparation and healing. (1) Sharp debridement is considered the “gold standard” for removing necrotic material from the wound bed. Unfortunately, sharp debridement is not done in the wound center setting as often and as well as it should be. Most times when sharp debridement is needed, surgeons are consulted, and the patient is taken to the operating room for the procedure. The delay in getting the patient admitted to the hospital, seen by the surgeon, and getting them on the operative schedule can result in significant delays in the treatment of these patients. There is no question that there are debridement procedures that need to be done in the operating room, but many times these procedures can be safely done in the wound center saving time and money. The major concerns about doing sharp debridement in the wound center seem to fall into four categories including: control of pain, control of bleeding, lack of sterility, and confidence in doing the procedure. Recent evidence shows that these should not be an impediment to doing sharp debridement in the wound center. The issue of controlling bleeding in the wound center setting is addressed.

## Control of Bleeding

57% of operators feel that the ability to control bleeding is the most important consideration for those doing sharp debridement, although 56% say bleeding of concern “rarely” or “seldom” occurs. (1) When the major concern of the operator is causing bleeding, the debridement procedure is usually unsatisfactory.

Bleeding can be controlled by multiple ways. Applying pressure on the bleeding site is a common technique. Holding pressure for 5-10 minutes will generally control most minor bleeding.

The most frequently used technique for control of bleeding after sharp debridement involves the use of silver nitrate. 93% of practitioners doing sharp debridement admit to using silver nitrate. (2) Although frequently and effectively used, it does cause tissue damage due to its caustic nature. (3)

Collagen, oxidized regenerated cellulose, porcine gelatins, alginate dressings, and physiological hemostatics (ie. fibrin sealants, topical thrombin) can be helpful in controlling bleeding but each has its particular issues.

A new Kaolinite based dressing composed of a white alumina silicate clay material, discovered in 1958 by Dr. Margolis in Oxford, England, was found to be most effective in controlling moderate to severe bleeding in the wound center, hospital, and field. (4) This product immediately initiates the clotting cascade resulting in prompt clot formation. It effectively generates clotting in anti-coagulated patients and those with thrombocytopenia. (3,5)

Sutures are the old standby for controlling bleeding and are very useful when other measures are not successful.

With the tried and true and the new techniques and devices to control bleeding, there should be little fear of uncontrolled hemorrhage following sharp debridement in the wound center.

## Use of Kaolinite Based Dressing

The use of the Kaolinite dressings, QuikClot®, has been very useful in treating excess bleeding resulting from sharp debridement in the wound center setting. To use the hemostatic dressing, remove it from the package and place it on the bleeding wound applying manual compression. Continue the compression for approximately 5 minutes or until the bleeding stops. Then, gently lift the dressing from the wound taking care not to dislodge any clots. If the dressing seems stuck to the wound, moisten the dressing and wound with saline.

If the bleeding is more difficult to control, apply an absorptive dressing over the hemostatic dressing and leave on the wound until the next dressing change. Clotting times are significantly shortened with this Kaolinite dressing. (6)

Since the hemostatic agent does not cause an exothermic reaction, there is no risk of heat damage to the tissues. It does not contain proteins such as thrombin or fibrinogen or shellfish products that would sensitize the patient making repeated use unsafe. Importantly, the hemostatic agent works well even when the patient is on anticoagulants including antiplatelet agents, heparin-both low molecular weight products or regular, and warfarin. (5) Calcium deficiency does not delay clotting when the Kaolinite dressing is used. (5)

## Hemostasis in Wounds Using Kaolinite Dressing vs Compression with Gauze (6)

	QuikClot® Gauze (n=100)	Manual Compression (n=100)	p Value
Mean Hemostasis Time (minutes)	5.4 ± 1.5	26.2 ± 15	<0.001
Cumulative Frequencies			
5 minutes	93%	10%	<0.001
6 minutes	91%	30%	<0.001
8 minutes	100%	38%	<0.001
Median Time to Ambulation (hours)	.4	12	N/A

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## Cases of Sharp Debridement in the Wound Center

