



# Advanced Bleeding Control

# MEDIC First Aid

An HSI Company

## Advanced Bleeding Control

### Student Book

Version 8.0

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# Severe External Bleeding



Traumatic injuries are unexpected. They can happen at any time and in any place. Traumatic injury is one of the leading causes of death for people under 50 years of age in the United States.<sup>1</sup> A large portion of those deaths are from severe bleeding. Bleeding is the most treatable cause of death due to trauma.

Common mechanisms for traumatic injuries include the following:

- Falls from great height
- Significant blows to the body
- Motor vehicle crashes
- Slicing or stabbing from sharp objects
- Firearm shootings
- Explosions and shrapnel

Recent mass casualty events have highlighted the need for improvement in immediate care for severe bleeding due to traumatic injury.

Death from severe bleeding can occur rapidly. Survival is primarily dependent on how quickly bleeding is controlled.

## Commercial Bleeding Control Devices

Military experience in the past few decades has guided the adoption and use of commercial bleeding control devices such as pressure bandages, tourniquets, and packed dressings in non-military settings to improve the speed at which serious bleeding is stopped.

- **Pressure bandages:**

Commercial pressure bandages are designed to quickly and effectively provide the well-aimed direct pressure needed to control heavy bleeding.



- **Tourniquets:** Commercial tourniquets have been

found to be very effective in controlling heavy bleeding. Previous fears of complications had prevented widespread use, but military evidence has shown that complications are actually minimal and the benefit of using a tourniquet, when needed, far outweighs the risk.

- **Packed dressings:** Commercial packed dressings, including hemostatic dressings, have proved to be beneficial, especially when other bleeding control measures such as direct pressure and tourniquets don't work or cannot be applied.

With military use and research that supports the successful use of these devices, more commercial products are available for non-military use. For example, many emergency medical services (EMS) systems have implemented the standard use of commercial bleeding control devices. Law enforcement personnel, who often deal with traumatic injury situations involving civilians or officers, have also adopted a more standardized approach to the use of these devices.

## Immediate Treatment

The sooner bleeding is controlled, the more likely it is an injured person will survive. Similar to the use of CPR and AEDs for sudden cardiac arrest, the treatment for severe bleeding is best started immediately by the nearest person able to help.

Lay providers are now being encouraged to be trained to use the same commercial products utilized by EMS, fire departments, and law enforcement.



### Knowledge Check

Why is it important to control bleeding as soon as possible?

# Pressure Bandages



A bandage or a wrap designed to hold a dressing in place can be used as long as it maintains enough pressure to control bleeding. For minor and moderate bleeding, a simple roller bandage will most likely accomplish this.

## ***Commercial Pressure Bandages***

For heavy bleeding, consider the use of a commercial pressure bandage. A pressure bandage is specially designed to exert focused additional pressure directly on a bleeding site. This is accomplished by the use of a hard structure embedded in the bandage.



When using a commercial pressure bandage, place the hard embedded piece over the point of bleeding. Wrap this piece tightly to place more pressure directly under it than anywhere else under the wrap.

## ***Using Pressure Bandages***

Once in place, monitor a pressure bandage for effectiveness. A pressure bandage only needs to apply enough pressure to stop bleeding.

Be careful not to apply too much pressure that could prevent blood flow to the body beyond the bandage. Make note and alert EMS personnel if the skin beyond the bandage becomes cool to the touch, bluish, or numb.

### ***Improvised Pressure Bandage***

If you do not have a commercial pressure bandage, you can improvise one by placing a roll of spooled gauze or folded pad directly over the point of bleeding and wrapping it tightly in place.



### **Knowledge Check**

How does a pressure bandage work to control bleeding?

Preview



# Using a Pressure Bandage



## Place Bandage

- Unwrap bandage to expose pad.
- Place pad on wound with hard pressure piece positioned to end up over the point of bleeding.



## Wrap Bandage

- Wrap elastic bandage around limb, overlapping first wrap to secure pad and pressure piece in place.
- Tightly apply additional wraps on top of pressure piece, using counter pressure to keep limb from rolling. Use twists in bandage to provide more focused pressure.
- Apply enough pressure to stop bleeding.



## Secure Bandage

- Latch hook at end of bandage on one of previous wraps to secure bandage in place.



## Monitor Bandage

- Check frequently to ensure bleeding remains controlled.

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<https://www.dhs.gov/stopthebleed> (12/17)

<https://community.fema.gov/until-help-arrives> (12/17)

# Endnotes

1. <https://www.cdc.gov/injury/wisqars/LeadingCauses.html> (12/17)

Preview

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