"One Handed Tourniquet" VCU #03-044

Applications

- Emergency medicine in both civilian and military situations.
- Stopping blood flow to prevent further trauma.

Advantages

- One handed operation
- Requires little force to operate
- Clamp for gradual release of tension
- Small and easily portable
- Locking mechanism to prevent accidental release

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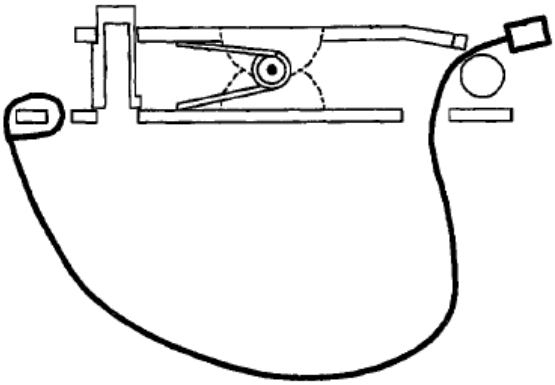
Market Need

Tourniquets are an essential piece of emergency medical equipment. They are able to be quickly applied and are efficient in stopping blood flow to the injury to minimize blood loss and promote clotting. While tourniquets have been in civilian and battlefield use for centuries, there are significant weaknesses in their design. Traditional tourniquets require either two hands to operate and often require the strength and assistance of an uninjured party. Even then, tourniquet slippage can result in the resumption of bleeding which can be detrimental, if not fatal, to the injured. Thus, further research and redesign is required to overcome the flaws of a traditional tourniquet.

Technology Summary

VCU clinicians have invented a novel design for a tourniquet. This tourniquet can be operated with one hand with relatively little applied force. Thus, in extreme emergency situations, such as on the battlefield, the injured could apply the tourniquet himself, even with the loss of strength caused by blood loss. This new tourniquet also prevents several additional advantages over previous designs. The mechanism for securing tension in the tourniquet includes a lock to prevent inadvertent release of the device by the injured. This mechanism has also been redesigned as a clamp in order to foster the gradual release of tension once clotting has commenced or rapid release in the event it is required.



Technology Status

This technology is covered by U.S. Patent 7,468,076.

This technology is available for licensing to industry for further development and commercialization.