ANKLE TOURNIQUET HOLSTER

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ABSTRACT

An ankle holster is provided which can be used to store and transport a tourniquet. The ankle tourniquet holster can feature a flexible strap that can be worn around a body part of a wearer. A pocket can be sewn or otherwise attached to one side of the flexible strap. A tourniquet can be inserted into the pocket of the ankle tourniquet holster. The ankle tourniquet holster can be attached and worn around an ankle of the wearer using one or more fasteners. When worn around the wearer's ankle, the ankle tourniquet holster permits the wearer to easily and quickly access the tourniquet for self-treatment of a bleeding deep wound or to treat another injured person while concealing the presence of the tourniquet and avoiding its interference with weapons or gear that are normally transported via attachment to a belt around the wearer's waist.
ANKLE TOURNIQUET HOLSTER

CROSS-REFERENCE TO RELATED APPLICATIONS

0001. The present application is a nonprovisional of and claims the priority of U.S. provisional patent application No. 61/144,887 filed on Jan. 15, 2009. The foregoing application is incorporated in its entirety herein by reference.

FIELD OF THE INVENTION

0002. The invention relates generally to mechanisms to hold/carry a self-application combat tourniquet, and more particularly to an ankle holster for carrying a tourniquet which not only conceals and holds a tourniquet to the wearer’s ankle, but also allows the wearer to easily remove a tourniquet from the ankle holster.

BACKGROUND

0003. Tourniquets are an essential tool for medics and other first responders such as, for example, police and other law enforcement officers, who encounter injured persons and who are themselves likely to face injury due to the nature of their jobs. For law enforcement officers in particular, such first aid tools must be easily accessible and readily available for use in case of emergency. For example, in an encounter with another armed or hostile party, a law enforcement officer may be injured to an extent that requires immediate medical attention. The officer may begin bleeding heavily after an injury occurs but before the hostile situation has ended. In other cases, the law enforcement officer’s partner or another person may be injured in a way that causes excessive blood loss requiring immediate medical attention. If the hostile or combat situation has not yet ended and the injured officer or other person cannot be reached by medical personnel, a tourniquet carried by the officer or other first responder may be applied immediately during the hostile situation to shunt blood loss, thereby potentially saving the life of the injured officer or other injured person receiving treatment. For example, a law enforcement officer or soldier who has been injured during the course of a combat situation can immediately self-treat the wound to slow or stop blood loss until professional medical treatment can be obtained.

0004. Deep penetrating injuries (e.g., gun shots and stabblings) are understood to be the most significant threat to an officer’s life. Because a partial or complete dissection of a major artery can result in death by exsanguination in approximately 2-4 minutes, rapid application of a tourniquet is crucial in the event of an inflicted wound to the officer or another victim to increase the chances of survival. Such rapid and readily available wound treatment is also beneficial for soldiers, hikers, climbers, and others engaging in dangerous, hostile, and combat situations or who visit or engage in recreational activities in remote areas.

0005. Today, most law enforcement officers have too much equipment on their waist duty holsters to be able to accommodate another device to hold a tourniquet. Keeping a trauma kit in a vehicle is also not functional as most, if not all officers, would not likely carry an extra bag with them when responding to call. Additionally, attempts by officers to affix a tourniquet to their duty belts via elastic bands or other measures is often a violation of uniform regulations in many law enforcement agencies.

0006. A need exists for an apparatus or means for law enforcement officers, other first responders, soldiers, persons engaging in certain high-risk outdoor recreational activities and others to easily transport one or more tourniquets that are readily accessible and can be quickly applied by the carrier to a wound or used by the carrier to treat the wound of another person.

SUMMARY

0007. The invention relates to an ankle holster that can be used to store and transport a tourniquet on the body of a wearer. The ankle tourniquet holster can feature a flexible strap that can be worn around a body part of the wearer. A pocket can be sewn or otherwise attached to one side of the flexible strap. A tourniquet can be inserted into the pocket of the ankle tourniquet holster. The ankle tourniquet holster can be attached and worn around an ankle of the wearer using one or more fasteners. The fasteners can be patches of hook and loop fasteners installed on different sides of opposite ends of the flexible band.

0008. When worn around the wearer’s ankle, the ankle tourniquet holster permits the wearer to easily and quickly access the tourniquet for self-treatment of a bleeding deep wound or to treat another injured person while concealing the presence of the tourniquet and avoiding its interference with weapons or gear that are normally transported via attachment to a belt around the wearer’s waist.

0009. The ankle is a body part on which law enforcement officers already carry back-up weapons for use in emergencies. Because the tourniquet is to be used in an emergency and because the ankle as a location for attachment of gear is familiar to most users and is accessible from the prone, sitting or kneeling positions under dangerous circumstances, the ankle is an ideal body part around which the holster can be fastened and worn. The placement of a tourniquet holster on the ankle is also crucial since currently many police officers carry a back-up weapon on an ankle holster. As a result, law enforcement officers are already familiar with the ankle as a location to reach toward in an emergency.

0010. The ankle holster can be designed to conceal and hold a tourniquet to the wearer’s ankle, and can be designed to allow the wearer to easily remove the tourniquet from the ankle holster. The fasteners can feature an adjustable fastening device that permits the strap to be shaped into a loop. The pocket of the holster apparatus can releasably hold a tourniquet to one face or side of the strap.

0011. The holster can be constructed of lightweight perforated breathable neoprene. The holster can be attached to the wearer’s ankle via a hook-and-loop type closure. The pocket that holds the tourniquet can be half the length of the tourniquet, which allows the officer to pull the tourniquet free from the holster using a convulsive grip. This construction adheres to the concepts of survival stress physics and the capabilities lost (fine motor skills) during survival stress response.

0012. Most officers already have too much gear on their belts and will refuse to carry yet another piece of gear on the already over-burdened duty belt. The ankle tourniquet holster, as a single lightweight piece of gear, is needed by all police officers because it is convenient and addresses survival. The ankle tourniquet holster and its inserted tourniquet is a necessary tool to insure that each officer can save his or her life or the life of another officer or victim.
An advantage of the present invention is that the ankle holster for carrying a tourniquet effectively conceals a tourniquet from the view of others. Because the ankle holster can be worn underneath one's clothing or hidden in a belt, the holster is unlikely to be visible to another person viewing the wearer. Because other persons cannot ascertain that the wearer of the ankle holster is carrying a tourniquet, the wearer can avoid violations of uniform regulations.

Another advantage of the invention is that because the holster is made of flexible material that can breathe, it will retain the tourniquet during activity, physical altercation, foot pursuits, climbing obstacles.

The tourniquet holster on the ankle proves to be advantageous in that the location is concealed from the public and any hostile threat.

Another advantage of the present invention is that the location is easily reached from a kneeling, prone or seated position.

Another advantage of the present invention is that the location is concealed from others to protect the officer from violations of uniform regulation.

Another advantage of the present invention is that the location is convenient and the device/gear is lightweight and will not be seen as a hindrance to movement by law enforcement officers and other wearers.

Another advantage of the present invention is that the ankle holster allows for easy retrieval of a folded tourniquet. The tourniquet pocket is designed to expose a portion of the tourniquet while still securely holding the tourniquet in the pocket to allow the wearer to easily remove the tourniquet from the tourniquet pocket. To remove the tourniquet package from the ankle holster, the wearer may simply reach to the ankle holster hidden under his clothing and pull on the exposed tourniquet to remove it from the ankle tourniquet holster's pocket. Consequently, the wearer can use one hand to retrieve the tourniquet.

Accordingly, the invention features a holster apparatus for storing and transporting a tourniquet on a wearer for use in treatment of bleeding wounds. The holster apparatus can feature a strap, a pocket connected to the strap and sized to receive the inserted tourniquet, and one or more fasteners for attaching the strap to a body part of the wearer.

In another aspect, the invention can feature the strap being constructed from a flexible material.

In another aspect, the invention can feature the strap being constructed from an inflexible material.

In another aspect, the invention can feature the pocket being sized to receive two or more tourniquets inserted therein.

In another aspect, the invention can feature the one or more fasteners including a patch of hook fasteners and a patch of loop fasteners.

In another aspect, the invention can feature the patch of hook fasteners being installed on a first end and on a first side of the strap and the patch of loop fasteners being installed on a second end and on a second side of the strap.

In another aspect, the invention can feature the one or more fasteners being selected from among: a zipper, an adhesive, one or more safety pins, hook and eye fasteners, magnetic snaps, snap fasteners, buckles, buttons, ties, clips, and clasps.

In another aspect, the invention can feature the pocket being attached by sewing to the strap.

In another aspect, the invention can feature the pocket being attached by heat sealing or melting to the strap.

In another aspect, the invention can feature the pocket being constructed from a flexible material.

In another aspect, the invention can feature the pocket being constructed from an inflexible material.

In another aspect, the invention can feature the strap being constructed of a length capable of being fastened and worn around an ankle of the wearer.

In another aspect, the invention can feature the strap being constructed from a breathable material.

In another aspect, the invention can feature the strap being constructed from a waterproof, breathable fabric.

In another aspect, the invention can feature the strap being constructed of a length capable of being fastened and worn around an upper arm of the wearer.

In another aspect, the invention can feature the one or more fasteners being capable of adjustment to fit the holster apparatus around ankles of different sizes of different wearers.

In another aspect, the invention can feature the pocket including means for preventing the tourniquet from falling out of the pocket.

The invention also features a holster apparatus for storing and transporting a tourniquet on a wearer for use in treatment of bleeding wounds. The holster apparatus can feature a circular strap and a pocket connected to the circular strap and sized so as to be capable of receiving a tourniquet.

In another aspect, the invention can feature the circular strap being constructed from a flexible material.

In another aspect, the invention can feature the circular strap being sufficiently sized and flexible enough to be fitted over a foot of the wearer and to fit snugly around an ankle of the wearer.

Unless otherwise defined, all technical terms used herein have the same meaning as commonly understood by one of ordinary skill in the art to which this invention belongs. Although methods and materials similar or equivalent to those described herein can be used in the practice or testing of the present invention, suitable methods and materials are described below. All publications, patent applications, patents and other references mentioned herein are incorporated by reference in their entirety. In the case of conflict, the present specification, including definitions will control.

**BRIEF DESCRIPTION OF THE DRAWINGS**

**FIG. 1** is a perspective view of the ankle tourniquet holster linked around a wearer's ankle.

**FIG. 2** is a perspective view according to the preferred embodiment of the present invention.

**DETAILED DESCRIPTION**

The invention provides an ankle holster 30 for carrying a tourniquet 40 designed to hold and conceal a tourniquet on a wearer's ankle. Referring to FIGS. 1 and 2, an exemplary embodiment of the ankle holster 30 carrying a folded tourniquet 40 is illustrated. The ankle holster 30 can feature a flat strap 31 or band. The strap 31 may be made of any flexible material, synthetic or natural, such as nylon, polyester, vinyl, neoprene, cotton, wool, leather, and other materials well known to those skilled in the art. The material from which the strap is constructed may be breathable. The material can also be waterproof. In one embodiment, the strap
31 may be constructed from an inflexible material. The strap 31 has a tourniquet holster apparatus 300 which releasably holds the folder tourniquet 40 on one face of the strap 31. When the tourniquet is removed it can be unfolded into its useable form and applied to the wearer or to a wounded person needing medical assistance from the wearer. The strap 31 can feature first and second sides and first and second ends.

[0044] In one embodiment, the holster tourniquet apparatus 300 can feature at least one tourniquet pocket 32. The tourniquet pocket 32 can be approximately one-half the length and width of a folded standard self-application tourniquet (based on the C.A.T.™ and I.C.A.T.™, Soft-T™) to facilitate survival stress responses, gross motor skills, loss of fine motor skills and the possibility that the user may be missing or unable to utilize the digits of their hands. Thus, the tourniquet 40 is easy to grasp and forcibly pull out of the pocket 32, but will not accidentally slip out. The pocket 32 can be constructed from the same materials as the strap or it may be constructed from materials different than those used in the construction of the strap.

[0045] The strap 31 can also feature a fastening device 33 which releasably connects the ends of the strap 31 together to form a loop and which also adjusts the length of the strap 31 to fit around the wearer’s ankle. The fastening device 33 can feature a hook-and-loop type closure or fastener having a receiving piece 331 provided on the outer side of the strap 31 and an attachment piece provided on the inside of the strap 31 respectively affixed at the two ends of the strap 30. However, the fastening device 33 can include other fasteners such as buckles, buttons, clasps, clips, or other devices well known to those skilled in the art. FIG. 1 illustrates the ankle holster 30 fastened around the wearer’s ankle with the pocket 32 facing away from the wearer’s skin. However, the ankle holster 30 can also be worn with the tourniquet pocket 32 facing toward the wearer’s skin.

[0046] The tourniquet holster apparatus 300 can also include elements which both prevent the tourniquet 40 from falling out of the tourniquet pocket 32 in the ankle holster 30 and allow the wearer to easily remove the tourniquet 40 from the ankle holster. Such variant embodiments of the tourniquet pocket are shown in U.S. Pat. No. 6,325,260 incorporated by reference herein. Accordingly further explanation of such embodiments will be omitted.

[0047] In view of above, a user can fasten the ankle holster 30 to his or her ankle to carry a tourniquet in a concealed and accessible manner. Normally, the ankle holster 30 is concealed by the pant and/or sock of the wearer. However, the wearer can easily reach the ankle holster 30 and remove the tourniquet from the tourniquet pocket using one hand.

[0048] Suitable fasteners and fastening devices that may be used with this invention include hook-and-loop fasteners, zippers, adhesives, safety pins, hook and eye fasteners, magnetic snaps, snap fasteners, buckles, buttons, ties, clips, and clasps.

[0049] In another embodiment, the invention can feature a holster apparatus for storing and transporting a tourniquet on a wearer for use in treatment of bleeding wounds that can feature a circular strap. The circular strap can include an attached pocket that is sized so as to be capable of receiving a tourniquet. The circular strap can be constructed from a flexible material. The circular strap can also be sufficiently sized and flexible enough to be fitted over a foot of the wearer and to fit snugly around an ankle of the wearer.

Other Embodiments

[0050] It is to be understood that while the invention has been described in conjunction with the detailed description thereof, the foregoing description is intended to illustrate and not limit the scope of the invention, which is defined by the scope of the appended claims. Other aspects, advantages, and modifications are within the scope of the following claims.

What is claimed is:

1. A holster apparatus for storing and transporting a tourniquet on a wearer for use in treatment of bleeding wounds, the apparatus comprising:
   a. a strap;
   b. a pocket connected to the strap and sized to receive the inserted tourniquet; and
   c. one or more fasteners for attaching the strap to a body part of the wearer.

2. The holster apparatus of claim 1, wherein the strap comprises a flexible material.

3. The holster apparatus of claim 1, wherein the strap comprises an inflexible material.

4. The holster apparatus of claim 1, wherein the pocket is sized to receive two or more tourniquets inserted therein.

5. The holster apparatus of claim 1, wherein the one or more fasteners comprises a patch of hook fasteners and a patch of loop fasteners.

6. The holster apparatus of claim 5, wherein the patch of hook fasteners is installed on a first end and a first side of the strap and the patch of loop fasteners is installed on a second end and on a second side of the strap.

7. The holster apparatus of claim 1, wherein the one or more fasteners comprise at least one fastener selected from the group consisting of: a zipper, an adhesive, one or more safety pins, hook and eye fasteners, magnetic snaps, snap fasteners, buckles, buttons, ties, clips, and clasps.

8. The holster apparatus of claim 1, wherein the pocket is attached by sewing to the strap.

9. The holster apparatus of claim 1, wherein the pocket is attached by heat sealing or melting to the strap.

10. The holster apparatus of claim 1, wherein the pocket comprises a flexible material.

11. The holster apparatus of claim 1, wherein the pocket comprises an inflexible material.

12. The holster apparatus of claim 1, wherein the strap comprises a length capable of being fastened and worn around an ankle of the wearer.

13. The holster apparatus of claim 1, wherein the strap comprises a breathable material.

14. The holster apparatus of claim 1, wherein the strap comprises a waterproof, breathable fabric.

15. The holster apparatus of claim 1, wherein the strap comprises a length capable of being fastened and worn around an upper arm of the wearer.

16. The holster apparatus of claim 1, wherein the one or more fasteners can be adjusted to fit the holster apparatus around ankles of different sizes of different wearers.

17. The holster apparatus of claim 1, wherein the pocket comprises means for preventing the tourniquet from falling out of the pocket.
18. A holster apparatus for storing and transporting a tourniquet on a wearer for use in treatment of bleeding wounds, the apparatus comprising:
   a circular strap; and
   a pocket connected to the circular strap and sized so as to be capable of receiving a tourniquet.

19. The holster apparatus of claim 18, wherein the circular strap comprises a flexible material.

20. The holster apparatus of claim 19, wherein the circular strap is sufficiently sized and flexible to be fitted over a foot of the wearer and to fit snugly around an ankle of the wearer.

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