A pair of medical-patient shorts that are opened entirely at the right and left outside seams, while allowing the rear, front, and crotch seams to remain intact, is disclosed. The shorts include the use of a sturtted series of hook-and-pile patches that largely define the outer seams of the shorts, which are largely comprised of a front fabric panel and a rear fabric panel. The design of the outside side seams to enhance user comfort and to make access to the patient’s body, dressing, etc. more convenient. In addition, the shorts provide features to provide convenient physical support for medical apparatuses, such as drainage bags and tubing, for example. Finally, associated methods of use for the medical-patient shorts are disclosed.
RIGHT-AND-LEFT-SEAM OPENING MEDICAL-PATIENT SHORTS AND METHODS OF USE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This patent application claims the benefit of U.S. Patent Application No. 61/161,173, filed on Mar. 18, 2009, and is hereby incorporated by reference for all purposes.

BACKGROUND OF THE INVENTION

[0002] Medical patients, particularly those treated in hospitals or day-surgery facilities, often find themselves with various tubes and other medical devices connected to their bodies; e.g., intravenous needles, cannulas, joint-drainage tubes and associated collection bags, etc. When connected to such devices, the donning and removing of clothing without disturbing such connected medical devices is a challenge. Further, it is often undesirable for a patient to be wearing little more than a standard hospital gown that is open in the back and provides minimal modesty coverage for the lower body, particularly in the leg and groin areas. Many, if not most, patients prefer to be also wearing pants or shorts under such a gown for both comfort and modesty reasons.

[0003] Unfortunately, the wearing of some sort of shorts or pants leads to complications when the donning and removal of such apparel items interfere with the ongoing medical treatment. This is particularly true for orthopedic patients who are undergoing medical treatment for leg/lower-joint issues. For example, a patient who is recovering from knee surgery might have a post-operative canula inserted in the subject knee, with associated tubing and drainage bag attached. In these types of cases, it is desirable to have a means to don and remove a pair of modesty shorts without disturbing the drainage apparatus, or any other medical apparatus that may be attached to part of the patient's lower extremities.

[0004] In addition, many orthopedic patients find themselves needing to wear a knee brace or similar device on their injured/repaird leg. If the patient wishes to change shorts, he or she usually must remove the bulky knee brace to avoid having to wrestle his or her shorts over the knee brace—assuming that the shorts' leg openings are large enough to eventually get over the knee brace in the first place. It is often undesirable for practical and medical reasons to have a post-operative patient removing their own knee brace while still healing. Once again, it would be desirable for a patient to have the ability to change-out his or her pair of shorts without removing the knee brace.

[0005] There are proposed solutions in the art to deal with this or similar issues, yet fall a bit short of the goal of providing a convenient and efficient means of donning and removing a pair of shorts for a medical patient, while also enhancing the comfort and modesty goals for the patient.

[0006] Once proposed and relevant solution is a full-length pair of pants produced and sold by a company called Easy Access Clothing (www.easyaccessclothing.com), where each of the left and right outside seams of the pants are detachable by use of a full-length, continuous, hook-and-pile (aka VELCRO®) strip. This same company offers similar items where the outside seams are formed by using full-length zippers or a series of mechanical snaps. While these solutions may facilitate the ability to get a pair of pants on a disabled person without having to lift the disabled persons' body substantially, there are several reasons why this solution is not suited for an ongoing post-surgical patient scenario. First, the placement of a full-length pant leg a post-surgical orthopedic patient may not be wise or desired for myriad medical reasons, including fighting infections. Second, the full-length pant leg may be uncomfortable for the patient who has just experience trauma to the leg (including perhaps invasive surgery). Third, many patients might find the feel of the mechanical snaps or full-length zipper or continuous Velcro strip uncomfortable. Fourth, and most importantly, the nature of those three attachment schemes for the outside seams, even if used on a pair of shorts, inhibit ready access to a patient's leg and associated medical devices, as well as inhibit quick and easy detachment and reattachment of both seam members that form the outside seam, which in turn inhibits easy and quick donning and/or removal of the pair of shorts.

[0007] Another relevant attempt to provide a pair of shorts that are readily donned and removed without having to maneuver the pair of shorts over a person's leg is shown in U.S. Patent Application Publication No. US 2006/0107443 A1 to DeRosa (hereinafter "DeRosi"). DeRosa discloses a pair of athletic shorts to help tri-athletes quickly change shorts between various portions of the competition. The DeRosa shorts essentially consist of a front and rear fabric panel joined in the crotch region, with no formed side seams at all, with each of the fabric panels having a waistband segment, and employ two mating Velcro strap pairs at the waistband segments. A user places the crotch region of the shorts between his or her legs, then joins each mating Velcro strap pair on each side of the waistband to form the "shorts", which also have no pockets. The DeRosa shorts provide no side seam whatsoever and as a result, modesty considerations are severely compromised from the standpoint of a potential patient who might use them. Further, without a structured side seam, the DeRosa shorts provide little coverage of the user's legs and no ability to support the placement of medical devices.

BRIEF DESCRIPTION OF THE DRAWINGS

[0008] FIG. 1 depicts a front view of one embodiment of the medical break-away shorts. This figure also shows the right leg of the shorts with two of the plurality of hook-and-pile patch seam couplers disengaged, and also shows the left side of the waistband with a disengaged hook-and-bar waistband coupler. This figure also depicts the optional addition of two patch-type pockets, one on the left and one on the right, each with a cord loop attached, said cord loop facilitating the attachment of a medical apparatus if desired.

[0009] FIG. 2 depicts a right-side view of one embodiment of the medical break-away shorts, including dotted lines showing a plurality of hidden hook-and-pile patch seam couplers. In this figure, the seams are fully formed by the full engagement of the hook-and-pile seam couplers. Also depicted is an optional patch-type pocket on the front fabric panel, with a cord loop attached, said cord loop facilitating the attachment of a medical apparatus if desired.

[0010] FIG. 3 depicts a view of the inside of the front panel and rear panel of one embodiment of the medical break-away shorts, as connected through the crotch area.

[0011] FIG. 4 depicts a side view of the upper leg (just below the knee to the hip) of a user wearing one embodiment of the medical break-away shorts while the user is laying down or in a reclined position, with an exemplary situation.
where there is a drainage hookup in the knee, with a typical clear hospital drainage bag being hooked to/hung from the cord loop at the patch pocket and a tube going from the user knee to the top of the drainage bag.

**Detailed Description**

**Overview**

[0012] The present inventive disclosure is directed generally to a pair of shorts that can be used on a medical patient where said medical patient has a need for comfort and modesty over the patient’s body region ranging from the waist above to the knee. Many times such patients are in post-operative recovery and treatment following orthopedic surgery of some sort. For example, if a patient has major knee surgery (e.g., ACL reconstruction or even a full knee replacement), such a patient commonly has a drainage apparatus erected around his or her leg to drain fluid from the knee due to swelling, etc. Having tubes and/or electrical sensing cords of various types connected to the patient’s leg creates a need to be able to efficiently and comfortably have a patient don and/or remove shorts without disturbing the various types of medical apparatuses that may be connected somehow to the patient leg being treated. In addition, patients who need dressing changes, or are confined to wheelchairs or beds, can benefit from these easily removable and donnable shorts.

[0013] Refer to FIGS. 1-4. The medical-patient shorts open entirely at the right and left outside seams, while the rear, front, and crotch seams remain intact. The present inventive concept includes the use of a staggered series of hook-and-pile patches 2 that largely define the outer seams of the shorts, which are largely comprised of a front fabric panel 1 and a rear fabric panel 9. For the outside seams, studded, or intermittent series of, hook-and-pile patches 2 are used rather than using buttons or snaps because such hard objects can be uncomfortable for patients and even lead to bed sores or skin irritations. Moreover, the studded hook-and-pile patches 2 are used in lieu of a continuous Velcro strip or a continuous zipper because the outside seams open much more readily and are more easily re-coupled than the continuous Velcro strips or zippers. In addition, the studded hook-and-pile patch 2 configuration provides medical-care persons ease of access to the patient’s underlying tissues in order to facilitate the checking of dressings, skin conditions, the changing of dressings, and myriad other medical services. Finally, the studded hook-and-pile patch 2 configuration provides an additional benefit of potentially providing additional physical support for tubing and instrumentation lines that a medical-care provider may have run along the outside of the patient’s leg. This can be accomplished by running said tubing and/or instrumentation lines between the studded hook-and-pile patches 2 in an alternating pattern around each side of the hook-and-pile patches 2 being used for such support. This helps minimize or eliminate the amount of medical tape that might otherwise have to be used on the patient, and helps minimize the amount of loose, dangling tubing and/or instrumentation lines.

[0014] The fabric used for the fabric panels 1, 9 can be of any relatively smooth, snag-resistant, quick-drying, and preferably anti-bacterial material, such as, for example, SUPPLEX® or nylon fabric. In a typical embodiment, the fabric of the shorts is of a soft, washable, and crushable cloth. The outer seams of the shorts are further defined on the right and left sides by coupling 6 of the front and rear waistband segments 5, which are typically elastic. The couplings joining the waistband segments can be of many types, but are typically of a hook-and-bar type. The hook-and-bar type of waistband fastener is particularly useful for persons with limited range of motion on the hands, such as arthritis patients.

[0015] To add utility for attendant medical-care providers, the shorts can include one or more pockets 3, typically of a patch-type design, disposed on the outer-front fabric panel, on one or both sides of the front fabric panel, but without overlapping the outside seams of the shorts. In some embodiments, these pockets include at least one corded loop 4 for attaching medical apparatuses, such as, for example a drainage bag 10.

[0016] Finally, it would be appreciated by those in the art that the shorts disclosed in various embodiments in this application would be of significant utility to athletes as well who need a convenient and efficient way to change shorts without having to remove knee braces, shoes, and/or other types of equipment.

**Terminology**

[0017] The terms and phrases as indicated in quotes (" ") in this section are intended to have the meaning ascribed to them in this Terminology section applied to them throughout this document, including the claims, unless clearly indicated otherwise in context. Further, as applicable, the stated definitions are to apply, regardless of the word or phrase’s case, to the singular and plural variations of the defined word or phrase.

[0018] The term “or”, as used in this specification and the appended claims, is not meant to be exclusive; rather, the term is inclusive, meaning “either or both”.

[0019] References in the specification to “one embodiment”, “an embodiment”, “a preferred embodiment”, “an alternative embodiment”, "a variation", “one variation", and similar phrases mean that a particular feature, structure, or characteristic described in connection with the embodiment is included in at least an embodiment of the invention. The appearances of the phrase “in one embodiment” and/or “in one variation” in various places in the specification are not necessarily all meant to refer to the same embodiment.

[0020] The term “couple” or “coupled”, as used in this specification and the appended claims, refers to either an indirect or a direct connection between the identified elements, components, or objects. Often the manner of the coupling will be related specifically to the manner in which the two coupled elements interact.

[0021] The term “removable”, “removably coupled”, “readily removable”, “readily detachable”, and similar terms, as used in this patent application specification (including the claims and drawings), refer to structures that can be uncoupled from an adjoining structure with relative ease (i.e., non-destructively and without a complicated or time-consuming process) and can also be readily reattached or coupled to the previously adjoining structure.

[0022] Directional and/or relational terms such as, but not limited to, left, right, nadir, apex, top, bottom, vertical, horizontal, back, front, and lateral are relative to each other, are dependent on the specific orientation of an applicable element or article, are used accordingly to aid in the description of the various embodiments, and are not necessarily intended to be construed as limiting. However, in general, it should be noted that unless otherwise specifically stated, the references to “right” and “left” portions of the shorts (or components of the
shorts), assume that the terms “right” and “left” refer to the right and left sides of the shorts from the perspective of a wearer of the shorts.

[0023] As applicable, the terms “about” and “generally” as used herein unless otherwise indicated means a margin of +/−20%. Also, as applicable, the term “substantially” as used herein unless otherwise indicated means a margin of +/−10%. It is to be appreciated that not all uses of the above terms are quantifiable such that the referenced ranges can be applied.

[0024] The term “stuttered” and “stuttering” as used herein refers to the pattern of location for the hook-and-pile mated patches that define and couple the outer seams of the medical-patient shorts described herein. This stuttered pattern inherently leaves intermittent uncoupled portions within the outer seams while maintaining the general integrity and functionality of the outer seams, which is a key functional feature for the medical-patient shorts.

[0025] The term “canula” as used herein refers to a medical device used to facilitate draining of bodily fluids from and/or infusion of medicinal substances into a patient, such as when an orthopedic patient’s knee is drained after a major surgery. Such patients are often “canulated” to drain fluid from swelling, as well as to infuse a localized pain medication to the affected area.

First Embodiment
A Pair of Shorts for Medical Patients or Athletes

[0026] This embodiment is directed generally to a pair of shorts that are designed to be easily removable and donnable without having to maneuver the shorts over the user’s legs and feet.

[0027] Refer to FIGS. 1-4. In an embodiment, the shorts have a front fabric panel 1, wherein the front fabric panel 1 has a top and bottom edge, and wherein the front fabric panel 1 has an outer-right-seam edge and an outer-left-seam edge. Further, the front fabric panel 1 has a waistband segment 5 along its top edge, which can be elastic. In addition, the shorts have a rear fabric panel 9, wherein the rear fabric panel 9 has a top and bottom edge, and wherein the rear fabric panel 9 has an outer-right-seam edge and an outer-left-seam edge. Further, the rear fabric panel 9 has a waistband segment 5 along its top edge to mate on the ends with that of the front fabric panel 1’s waistband segment 5, and the rear waistband segment can be elastic. The two fabric panels 1, 9 are fixedly joined at their bottom edges in what is designed to be the crotch region of the shorts, and the joining is typically by way of stitching.

[0028] The fabric used in the aforementioned fabric panels 1, 9 can be of any relatively smooth, snag-resistant, quick-drying, and preferably anti-bacterial material. In a typical embodiment, the fabric of the shorts is of a soft, washable, and crushable cloth. Fabrics used in some embodiments include cotton fabric, nylon fabric, polyester or polyester-blend fabric, and/or SUPPLEX®.

[0029] In some embodiments, the front and rear waistband segments 5 have mating points at substantially their ends, wherein the two waistband segments 5 can be detachably coupled 6 together at substantially each end of each said waistband segment 5. Such detachable coupling schemes that can be used in some embodiments include hook-and-bar, hook-and-pile, and snaps (though snaps are less preferred because of reliability issues as well as issues pertaining to patient comfort). It should be appreciated by those in the art that for a given coupling device to mate the ends of two waistband segments 5, either waistband segment end in question can host either part of the mating coupling device 6 as long as the other waistband 5 mating end hosts the complimentary part of the coupling device 6, e.g., a hook-and-bar coupling device 6. In additional embodiments, the front fabric panel 1 waistband segment 5 incorporates a drawstring 8 to allow a wearer to adjust the waistband snugness and comfort.

[0030] Most importantly about the shorts is the fact that to facilitate the removal and donning of the shorts without maneuvering the shorts over the wearer’s legs and feet, the outer seams of the shorts (which are defined by the coupling of the front and rear fabric panels 1, 9 on the outer sides of the panels) must be completely decoupled during removal and later recoupled during donning. This is accomplished by way of employing a stuttered pattern of hook-and-pile mated patches 2 along the outer-right-seam edges and the outer-left-seam edges. Experimentation has determined that by leaving uncoupled regions between the hook-and-pile patches 2, the seams can be opened and reclosed much more readily.

[0031] It should be appreciated by those in the art that for a given hook-and-pile mated patch 2 along an outer seam, it does not matter which fabric panel hosts the “hook” part and which panel hosts the “pile” part of that particular coupling device. In many embodiments, one fabric panel hosts all of the “hook” parts and the other fabric panel hosts all of the “pile” parts of the hook-and-pile patches 2 along the outer seams of the shorts. However, it should be noted that it is not required that a given fabric panel host all pile parts while the other fabric panel hosts all hook parts of the hook-and-pile patches to be functional.

[0032] Nevertheless, in an embodiment designed to maximize the comfort of the wearer, all of the pile parts of the hook-and-pile patches for the outer seams should be disposed such that when any given patch is either disengaged from or misaligned with its mated hook part, the unmated pile part is more likely to make contact with the wearer’s skin, rather than the hook part. This particular configuration is particularly useful when the hook-and-pile patch parts are slightly misaligned during the article’s fabrication process and/or if there is a size mismatch between the pile parts and the hook parts.

[0033] It should be noted that the FIGS. 1-4 depict an embodiment where the front fabric panel 1 hosts all of the hook parts of the hook-and-pile patches for the outer seams, while the rear fabric panel 9 hosts all of the pile parts of the hook-and-pile patches for the outer seams. This means that when the outer seams are formed, the rear fabric panel 9 overlaps the front fabric panel 1. Those ordinarily skilled in the art would appreciate the fact that this configuration between the two fabric panels 1, 9 could be easily reversed and yet achieve the same general functionality.

[0034] Once the outer seams are effectively closed by the stuttered hook-and-pile patches, as well as by the waistband coupling devices 6, then the wearer’s body between the waist and the portions of the wearer’s legs just above the knees is substantially covered by the joined front and rear fabric panels 1, 9.

[0035] Those skilled in the art will also appreciate the fact that the size and number of hook-and-pile mated patches 2 to be used for each outer seam can be varied while still maintaining the intended functionality. For example, smaller-sized hook-and-pile mated patches 2 (as well as the intermittent uncoupled areas of the shorts) may be more appropriate for children or females because of their typical smaller size. Also,
the addition of more hook-and-pile mated patches facilitates the making of longer shorts, or even pants, as an end user would like.

In other embodiments, the shorts further comprise one or more patch-type pockets 3 sewn into the front fabric panel 1. Furthermore, some embodiments incorporate at least one corded loop 4 for the attachment of medical devices, wherein the corded loop(s) 4 is(are) sewn into the outside seam of a given patch-type pocket 3, and wherein the outside seam of a given patch-type pocket 3 is defined as the right seam for an associated patch-type pocket 3 disposed on the right side of the front fabric panel 1, and wherein the outside seam of a given patch-type pocket 3 is defined as the left seam for an associated patch-type pocket 3 disposed on the left side of the front fabric panel 1.

Second Embodiment

A Method of Making a Pair of Shorts

This embodiment encompasses a method of making a pair of shorts for medical patients or athletes. Refer to FIGS. 1-4.

The method comprises the steps of: providing a front fabric panel 1, wherein the front fabric panel 1 has a top and bottom edge, wherein the front fabric panel 1 has an outer-right-seam edge and an outer-left-seam edge, the right and left orientations associated with the perspective of a user wearing the pair of shorts, and wherein the front fabric panel 1 has a waistband segment 5 along its top edge, providing a rear fabric panel 9, wherein the rear fabric panel 9 has a top and bottom edge, wherein the rear fabric panel 9 has an outer-right-seam edge and an outer-left-seam edge, the right and left orientations associated with the perspective of a user wearing the pair of shorts, wherein the rear fabric panel 9 has a waistband segment 5 along its top edge, and wherein the two waistband segments 5 for the front and rear fabric panels 1, 9 can be detachably coupled together at substantially each end of each the waistband segment 5; providing a crotch region 7 defining an interface 7 wherein the front fabric panel 1 bottom edge is coupled to the rear fabric panel 9 bottom edge; providing an outer-right-seam defined by the coupling of the outer-right-seam edges of the front and rear fabric panels 1, 9, wherein the coupling of the outer-right-seam edges uses a studded pattern of a plurality of hook-and-pile mated patches 2 along the outer-right-seam edges, wherein the hook-part of a given hook-and-pile mated patch 2 is disposed on either the front or rear fabric panel 1, 9, with the pile-part of that given hook-and-pile mated patch 2 being disposed on the opposite fabric panel 1, 9, wherein the studding of the hook-and-pile patches 2 creates intermittent points along the outer-right seam that remain uncoupled even when the pair of shorts are worn by a user, and wherein the front and rear fabric panels 1, 9 are configured to substantially cover the hip and outer upper-left leg of a wearer of the shorts.

This embodiment can be further extended wherein each waistband segment 5 is elastic.

This embodiment can be further extended wherein the detachable coupling 6 at each end of the waistband segments is accomplished using a hook-and-bar device, and wherein for each coupling point 6, the hook-part of said hook-and-bar coupling 6 can be disposed on either the front or rear waistband segment 5, with the bar-part of said hook-and-bar coupling 6 being disposed on the opposite waistband segment 5.

This embodiment can be further extended by further comprising the step of providing a drawstring 8 in the front waistband segment 5 for user-specified tightening.

This embodiment can be further extended by further comprising the step of providing at least one patch-type pocket 3 disposed on the outer surface of the front fabric panel 1.

This embodiment can be further extended by further comprising the step of providing at least one corded loop 4 for the attachment of medical devices, wherein the at least one corded loop 4 is sewn into the outside seam of the at least one patch-type pocket 3, wherein the outside seam of the at least one patch-type pocket 3 is defined as the right seam for an associated patch-type pocket 3 disposed on the right side of said front fabric panel 1, and wherein the outside seam of the at least one patch-type pocket 3 is defined as the left seam for an associated patch-type pocket 3 disposed on the left side of the front fabric panel 1.

This embodiment can be further extended wherein each of the front and rear fabric panels 1, 9 are substantially made from snag-resistant and quick-drying fabric material. Fabrics used in some embodiments include cotton fabric, nylon fabric, polyester or polyester-blend fabric, and/or SUPPLEX®.

Third Embodiment

A Method of Using a Pair of Shorts

This embodiment encompasses a method of using a pair of shorts designed for medical patients or athletes, as described in the First Embodiment supra. Refer to FIGS. 1-4.

The method comprises the steps performed by either the patient or a medical-care provider on behalf of the patient, of: ensuring that both the left and right outer seams of the pair of shorts are uncoupled 2, 6; placing the crotch region 7 of the pair of shorts between the patient’s legs, wherein the rear fabric panel 9 is positioned to cover the patient’s posterior/buttock region, and wherein the front fabric panel 1 is positioned to cover the patient’s anterior/groin region; engaging each of the waistband 5 coupling devices 6, thus forming a continuous and functional waistband 5, and coupling at least one of the plurality of hook-and-pile mated patches 2 on each of the outer-right and outer-left seams.

This embodiment can be further extended wherein the pair of shorts further comprises at least one patch-type pocket 3 disposed on the front fabric panel 1 and at least one corded loop 4 disposed in the outer seam of the at least one patch-type pocket 3, as described in the first embodiment supra, and by further comprising the steps of attaching a medical drainage pouch 10 to the corded loop 4 on the patch-type
pocket 3, wherein the medical drainage pouch 10 is configured to receive drainage of bodily fluids from tubing 11 that is connected on the distal end of said tubing 11 to said patient’s leg. This additional step can be performed by either the patient or a medical-care provider on behalf of the patient.

This embodiment can be further extended by further comprising the step of: before the step of attaching the medical drainage pouch 10 to the cored loop 4 on the patch-type pocket 3, supporting the tubing 11 by positioning the tubing 11 through uncoupled portions of the outer seam of the shorts on the side of the leg being treated such that the tubing 11 is positioned around and supported by at least one said hook-and-pile mated patch coupling 2, wherein if more than two of the hook-and-pile mated patches 2 are employed to support the tubing 11, then the tubing 11 is alternately positioned around the front-fabric-panel 1 side of the at least one hook-and-pile mated patches 2 and around the rear-fabric-panel 9 side of the at least one hook-and-pile mated patches 2. This additional step can be performed by either the patient or a medical-care provider on behalf of the patient.

Fourth Embodiment

A Method of Using a Pair of Shorts

This embodiment encompasses a method of using a pair of shorts designed for medical patients or athletes, as described in the First Embodiment supra. Refer to FIGS. 1-4.

The method comprises the steps, performed by either the patient or a medical-care provider on behalf of the patient, of: ensuring that both the left and right outer seams of the pair of shorts are uncoupled 2, 6; placing the crotch region 7 of the pair of shorts between the patient’s legs, wherein the rear fabric panel 9 is positioned to cover the patient’s posterior buttok region, wherein the front fabric panel 1 is positioned to cover the patient’s anterior groin region; engaging each of the waistband 5 coupling devices 6, thus forming a continuous and functional waistband 5; and coupling at least one of the plurality of hook-and-pile mated patches 2 on each of the outer-right and outer-left seams.

This embodiment can be further extended wherein the method further comprises the steps, performed by either the patient or a medical-care provider on behalf of the patient, of: attaching tubing 11 to the patient at a point below the patient’s waist, with the other end of the tubing 11 attached to a medical device adapted to deliver local anesthetic infusion to the patient; and supporting the tubing 11 by positioning the tubing 11 through uncoupled portions of the outer seam of said shorts on the side of the leg being treated such that the tubing 11 is positioned around and supported by at least one of the plurality of hook-and-pile mated patches 2, wherein if more than two of the hook-and-pile mated patches 2 are employed to support the tubing 11, then the tubing 11 is alternately positioned around the front-fabric-panel 1 side of the at least one hook-and-pile mated patches 2 and around the rear-fabric-panel 9 side of the at least one hook-and-pile mated patches 2.

Fifth Embodiment

A Method of Using a Pair of Shorts

This embodiment encompasses a method of using a pair of shorts designed for medical patients or athletes, as described in the First Embodiment supra. Refer to FIGS. 1-4.

The method comprises the steps, performed by either the patient or a medical-care provider on behalf of the patient, of: disengaging each of the plurality of hook-and-pile mated patches 2 on each of the outer-right and outer-left seams; disengaging each of the waistband 5 coupling devices 6; and removing the pair of shorts from between the patient’s legs.

This embodiment can be further extended wherein the pair of shorts further comprises at least one patch-type pocket 3 disposed on the front fabric panel 1 and at least one cored loop 4 disposed in the outer seam of the at least one patch-type pocket 3, as described in the First Embodiment supra, and by further comprising the step of: before the step of disengaging each of the plurality of hook-and-pile mated patches 1 on each of the outer-right and outer-left seams, detaching the medical drainage pouch 10 from the cored loop 4 on the patch-type pocket 3.

Alternative Embodiments and Other Variations

The various embodiments and variations thereof described herein and/or illustrated in the accompanying Figures are merely exemplary and are not meant to limit the scope of the inventive disclosure. It should be appreciated that numerous variations of the invention have been contemplated as would be obvious to one of ordinary skill in the art with the benefit of this disclosure.

For example, for exemplary purposes only, the cored loop(s) on the patch pocket(s) of the shorts were described to be used to help support a medical drainage from a patient’s knee/leg. Those ordinarily skilled in the art would easily appreciate that the exemplary methods described herein can be applied similarly to many other medical procedures using the shorts described herein.

Hence, those ordinarily skilled in the art will have no difficulty devising myriad obvious variations and improvements to the invention, all of which are intended to be encompassed within the scope of the claims which follow.

What is claimed is:

1. A pair of shorts suitable for a medical patients and athletes, comprising:
   a front fabric panel,
   wherein said front fabric panel has a top and bottom edge,
   wherein said front fabric panel has an outer-right-seam edge and an outer-left-seam edge, said right and left orientations associated with the perspective of a user wearing said pair of shorts, and
   wherein said front fabric panel has a waistband segment along its top edge;
   a rear fabric panel,
   wherein said rear fabric panel has a top and bottom edge, wherein said rear fabric panel has an outer-right-seam edge and an outer-left-seam edge, said right and left orientations associated with the perspective of a user wearing said pair of shorts,
   wherein said rear fabric panel has a waistband segment along its top edge, and
   wherein said two waistband segments for said front and rear fabric panels can be detachably coupled together at substantially each end of each said waistband segment;
   a crotch region defining an interface wherein said front fabric panel bottom edge is coupled to said rear fabric panel bottom edge;
an outer-right seam defined by the coupling of said outer-right-seam edges of said front and rear fabric panels, wherein said coupling of said outer-right-seam edges uses a stutted pattern of hook-and-pile mated patches along said outer-right-seam edges, wherein the hook-part of a given hook-and-pile mated patch is disposed on either the front or rear fabric panel, with the pile-part of that given hook-and-pile mated patch being disposed on the opposite fabric panel, wherein said stutting of said hook-and-pile patches creates intermittent points along said outer-right-seam that remain uncoupled even when said pair of shorts are worn by a user, and wherein said front and rear fabric panels are configured to substantially cover the hip and outer upper-left leg of a wearer of said shorts; and

an outer-left seam defined by the coupling of said outer-left-seam edges of said front and rear fabric panels, wherein said coupling of said outer-left-seam edges uses a stutted pattern of hook-and-pile mated patches along said outer-left-seam edges, wherein the hook-part of a given hook-and-pile mated patch is disposed on either the front or rear fabric panel, with the pile-part of that given hook-and-pile mated patch being disposed on the opposite fabric panel, wherein said stutting of said hook-and-pile patches creates intermittent points along said outer-left-seam that remain uncoupled even when said pair of shorts are worn by a user, and wherein said front and rear fabric panels are configured to substantially cover the hip and outer upper-left leg of a wearer of said shorts.

2. The pair of shorts of claim 1, wherein each said waistband segment is elastic.

3. The pair of shorts of claim 1, wherein: said detachable coupling at each end of said waistband segments is accomplished using a hook-and-bar device; and wherein for each said coupling point, the hook-part of said hook-and-bar coupling can be disposed on either the front or rear waistband segment, with the bar-part of said hook-and-bar coupling being disposed on the opposite waistband segment.

4. The pair of shorts of claim 1, wherein said front waistband segment further comprises a drawstring for user-specified tightening.

5. The pair of shorts of claim 1, further comprising at least one patch-type pocket disposed on the outer surface of said front fabric panel.

6. The pair of shorts of claim 5, further comprising at least one corded loop for the attachment of medical devices, wherein said at least one corded loop is sewn into the outside seam of said at least one patch-type pocket, wherein said outside seam of said at least one patch-type pocket is defined as the right seam for an associated patch-type pocket disposed on the right side of said front fabric panel, and wherein said outside seam of said at least one patch-type pocket is defined as the left seam for an associated patch-type pocket disposed on the left side of said front fabric panel.

7. The pair of shorts of claim 1, wherein each said front and rear fabric panels are substantially made from snag-resistant and quick-drying fabric material.

8. The pair of shorts of claim 7, wherein said fabric material is selected from the group consisting of cotton fabric, nylon fabric, polyester-blend fabric, and SUPPLEX®.

9. A method of making a pair of shorts suitable for a medical patients and athletes, comprising the steps of: providing a front fabric panel, wherein said front fabric panel has a top and bottom edge, wherein said front fabric panel has an outer-right-seam edge and an outer-left-seam edge, said right and left orientations associated with the perspective of a user wearing said pair of shorts, and wherein said front fabric panel has a waistband segment; providing a rear fabric panel, wherein said rear fabric panel has a top and bottom edge, wherein said rear fabric panel has an outer-right-seam edge and an outer-left-seam edge, said right and left orientations associated with the perspective of a user wearing said pair of shorts, wherein said rear fabric panel has a waistband segment; wherein said two waistband segments for said front and rear fabric panels can be detachably coupled together at substantially each end of each said waistband segment; providing a crotch region defining an interface wherein said front fabric panel bottom edge is coupled to said rear fabric panel bottom edge; providing an outer-right seam defined by the coupling of said outer-right-seam edges of said front and rear fabric panels, wherein said coupling of said outer-right-seam edges uses a stutted pattern of a plurality of hook-and-pile mated patches along said outer-right-seam edges, wherein the hook-part of a given hook-and-pile mated patch is disposed on either the front or rear fabric panel, with the pile-part of that given hook-and-pile mated patch being disposed on the opposite fabric panel, wherein said stutting of said hook-and-pile patches creates intermittent points along said outer-right-seam that remain uncoupled even when said pair of shorts are worn by a user, and wherein said front and rear fabric panels are configured to substantially cover the hip and outer upper-left leg of a wearer of said shorts; and providing an outer-left seam defined by the coupling of said outer-left-seam edges of said front and rear fabric panels, wherein said coupling of said outer-left-seam edges uses a stutted pattern of a plurality of hook-and-pile mated patches along said outer-left-seam edges, wherein the hook-part of a given hook-and-pile mated patch is disposed on either the front or rear fabric panel, with the pile-part of that given hook-and-pile mated patch being disposed on the opposite fabric panel, wherein said stutting of said hook-and-pile patches creates intermittent points along said outer-left-seam that remain uncoupled even when said pair of shorts are worn by a user, and
wherein said front and rear fabric panels are configured to substantially cover the hip and outer upper-left leg of a wearer of said shorts.

10. The method of claim 9, wherein each said waistband segment is elastic.

11. The method of claim 9, wherein:
   said detachable coupling at each end of said waistband segments is accomplished using a hook-and-bar device; and
   wherein for each said coupling point, the hook-part of said hook-and-bar coupling can be disposed on either the front or rear waistband segment, with the bar-part of said hook-and-bar coupling being disposed on the opposite waistband segment.

12. The method of claim 9, further comprising the step of providing a drawstring in said front waistband segment for user-specified tightening.

13. The method of claim 9, further comprising the step of providing at least one patch-type pocket disposed on the outer surface of said front fabric panel.

14. The method of claim 13, further comprising the step of providing at least one corded loop for the attachment of medical devices,
   wherein said at least one corded loop is sewn into the outside seam of said at least one patch-type pocket,
   wherein said outside seam of said at least one patch-type pocket is defined as the right seam for an associated patch-type pocket disposed on the right side of said front fabric panel, and
   wherein said outside seam of said at least one patch-type pocket is defined as the left seam for an associated patch-type pocket disposed on the left side of said front fabric panel.

15. The method of claim 9, wherein each said front and rear fabric panels are substantially made from snag-resistant and quick-drying fabric material.


17. A method of forming a pair of shorts according to claim 1, wherein the user of said pair of shorts is a medical-care patient, comprising the step of:
   by either said patient or a medical-care provider on behalf of said patient, attaching a medical drainage pouch to said corded loop on said patch-type pocket,
   wherein said medical drainage pouch is configured to receive drainage of bodily fluids from tubing that is connected on the distal end of said tubing to said patient's leg.

18. The method of claim 17, wherein said pair of shorts further comprises the limitations of claim 6, the method further comprising the step of:
   by either said patient or a medical-care provider on behalf of said patient, attaching a medical drainage pouch to said corded loop on said patch-type pocket.

19. The method of claim 18, further comprising the step of:
   by either said patient or a medical-care provider on behalf of said patient, supporting said tubing by positioning said tubing through uncoupled portions of said outer seam of said shorts on the side of the leg being treated such that said tubing is positioned around and supported by at least one said hook-and-pile mated patch coupling, wherein if more than two of said hook-and-pile mated patches are employed to support said tubing, then said tubing is alternately positioned around said front-fabric-panel side of said at least one hook-and-pile mated patches and around said rear-fabric-panel side of said at least one hook-and-pile mated patches.

20. The method of claim 17, wherein said pair of shorts further comprises the limitations of claim 6, the method further comprising the step of:
   by either said patient or a medical-care provider on behalf of said patient, attaching tubing to said patient at a point below said patient's waist, with the other end of said tubing attached to a medical device adapted to deliver local anesthetic infusion to said patient.

21. A method of removing a pair of shorts according to claim 1, wherein the user of said pair of shorts is a medical-care patient, comprising the steps of:
   by either said patient or a medical-care provider on behalf of said patient, disengaging each of said plurality of hook-and-pile mated patches on each of said outer-right and outer-left seams;
   by either said patient or a medical-care provider on behalf of said patient, disengaging each of said waistband coupling devices; and
   by either said patient or a medical-care provider on behalf of said patient, removing said pair of shorts from between said patient's legs.

22. The method of claim 21, wherein said pair of shorts further comprises the limitations of claim 6, the method further comprising the step of:
   before the step of disengaging each of said plurality of hook-and-pile mated patches on each of said outer-right and outer-left seams, detaching said medical drainage pouch from said corded loop on said patch-type pocket.

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