There is provided a therapeutic cold pack or hot pack system comprising an instant or disposable cold pack or hot pack having a front side wall and a back side wall being sealed together along a sealed edge or edges. A protective cover may be attached to the back side wall, and/or an adhesive or self-adherent elastic bandage or foil may be attached to the cold pack or hot pack. The protective cover may comprise a fabric or textile, such as cotton or wool. Alternatively, the protective cover may comprise a patch or plaster. If a bandage is attached to the cold or hot pack, the bandage may be a self-adherent elastic bandage, and if a foil is attached to the cold or hot pack, the foil may be a self-adherent plastic foil. A first end part of the bandage or foil may be attached to the cold pack or hot pack, and a major part of the bandage or foil may be rolled or coiled around a coiling part.
INSTANT OR DISPOSABLE COLD OR HOT PACK SYSTEM

FIELD OF THE INVENTION

The present invention relates to instant and/or disposable cold packs or hot packs for sports injuries or medical care.

BACKGROUND OF THE INVENTION

Instant or disposable hot and cold packs are often used by athletes to conveniently treat injury or used for medical care. The way they work is by taking advantage of chemicals that either absorb a lot of heat or release a lot of heat when dissolved in water. When a chemical process absorbs a lot of heat it is called endothermic; when a chemical process releases a lot of heat it is called exothermic.

Chemical cold packs contain separate components, which mix in an endothermic reaction resulting in up to 15 or 20 minutes of cold therapy. External compression of an injured area helps limit and reduce bleeding and edema and controls initial swelling by reducing the blood supply and interstitial fluids to the injured area.

In instant or disposable hot packs, calcium chloride or magnesium sulfate frequently are used because these chemicals dissolve in water exothermically. In other words, they release a lot of heat when they are dissolved in water. Hot packs can reach temperatures around 90 degrees Celsius. Hot and cold packs generally last about 20 minutes.

The present invention provides an improved cold pack or hot pack system combining the two most important aspects of cold or heat therapy, temperature and compression.

SUMMARY OF THE INVENTION

According to the present invention there is provided a therapeutic cold pack or hot pack system comprising:

an instant and/or disposable cold pack or hot pack having a front side wall and a back side wall being sealed together along a sealed edge or edges.
The cold or hot pack system may further comprise a protective cover attached to the back side wall and/or an adhesive or self-adherent bandage or foil attached to the pack.

The protective cover may cover at least 50%, such as at least 60%, such as at least 70%, such as at least 80%, or such as at least 90% of the surface of back side wall. The protective cover may also cover the whole surface of back side wall. The protective cover may be attached to the back side wall by use of an adhesive, or by welding, or the protective cover may be sewed to the back side wall. The protective cover may comprise a fabric or textile, such as cotton or wool. However, the protective cover may also or alternatively comprise a plastic material.

It is within one or more embodiments of the present invention that the protective cover comprises a patch or plaster. The patch or plaster may be water-repellent and/or the patch or plaster may be of the type used for burns.

It is preferred that the cold pack or hot pack has four sealed edges connecting the front and back side walls. It is also preferred that the sealed edge or edges of the cold pack or hot pack extend along a narrow rim surface. The bandage or foil may be attached to the pack along a part of a sealed edge or to a part of the rim surface. The bandage or foil may be welded, glued or sewed to a part of the rim surface or to a part of the sealed edge.

According to an embodiment of the invention, a bandage being a self-adherent elastic bandage is attached to the pack. According to another embodiment of the invention, a foil being a self-adherent plastic foil is attached to the pack.

It is preferred that a first end part of the bandage or foil is attached to the pack, and that a major part of the bandage or foil is rolled or coiled around a coiling part. The coiling part may be made of plastic, cardboard, or wood. The length of the coiling part may be larger than the width of the coiled up bandage or foil, and the coiling part may have a handle part extending below the coiled up bandage or foil.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a front side view of a cold pack or hot pack system according to an embodiment of the invention, and
Fig. 2 is a back side view of the cold pack or hot pack system of Fig. 1.

**DETAILED DESCRIPTION OF THE INVENTION**

5 Instant and/or disposable cold packs or ice packs, which are widely used for treating sports injuries, use an endothermic reaction to cool down quickly. These types of ice packs can be stored at room temperature rather than needing to be physically cooled before use. When one breaks a tube inside the pack, which may be made of a plastic material, two chemicals mix or react and absorb enough energy to produce a cooling effect. Common types may include solid ammonium nitrate dissolving in water, but instant cold packs have recently been developed without ammonium nitrate.

Disposable chemical hot packs employ a one-time exothermic chemical. The reagents are kept in separate compartments within the pack, which pack may be made of a plastic material. When the user squeezes the pack, they break and the reagents mix, producing heat. Calcium chloride or magnesium sulphate may be used, along with the water. They release heat when the chambers are broken and the chemical dissolves in the water. A hot pack can reach a temperature of 90°C.

Fig. 1 is a front side view of a cold pack or hot pack system 100 according to an embodiment of the invention, and Fig. 2 is a back side view of the cold/hot pack system of 100. Figs. 1 and 2 show an instant cold pack or hot pack 101 being selected from the types discussed above, which cold/hot pack 101 is connected to an adhesive or self-adherent bandage or foil 103, where the bandage or foil 103 may be partly coiled around a coiling part or roll 104. The cold/hot pack 101 has a front side wall 102 and a back side wall 105 which are sealed together. It is preferred that the front side wall 102 and the back side wall 105 are sealed and connected and along four edges. The side walls 102, 105 are preferably made of a plastic material, and the side walls 102, 105 may be sealed together by welding or by glue. A protective cover 106 is attached to the back side wall 105.

It should be understood that the present invention cover systems without the protective cover 106, but with the bandage or foil 103 attached to the pack 101. The present invention also cover systems without the bandage or foil 103, but with the protective cover 106 attached to the pack 101. For packs 101 having the bandage or foil 103, the coiling
part 104 may be left out. Thus the bandage or foil may be coiled without any coiling part 104.

The protective cover 106 may ensure that the user receives a soothing coolness, instead of a biting or bristling coldness when used for cold packs. When used for hot packs, the protective cover 106 may ensure that the user is not being burnt. The protective cover 106 may cover a major part of the back side wall 105, such as at least 50%, such as at least 60%, such as at least 70%, such as at least 80%, or such as at least 90% of the surface of back side wall. The protective cover 106 may also cover the whole surface of the back side wall 105. However, it is preferred that a rim surface 107 or at least a part of the rim surface 107 is left uncovered by the cover 106. The sealing of the front side wall 102 and the back side wall 105 may be performed along the dotted lines 108 shown in Fig. 1 and leaving the rim surface 107. The protective cover 106 may be attached to the back side wall 105 by use of an adhesive, by welding or it may be sewed to the back side wall 105. It is preferred that the protective cover is glued to the back side wall 105.

According to one embodiment of the invention, the protective cover 106 comprises a fabric or textile, such as cotton or wool. However, the protective cover 106 may also comprise other materials such as a plastic material.

It is also within an embodiment of the present invention that the protective cover 106 comprises a patch or plaster. The patch or plaster may be water-repellent. The patch or plaster may also or alternatively be of the type used for burns.

The bandage or foil 103 may be attached to the cold/hot pack along a part of a sealed edge. It is preferred that the bandage or foil 103 is welded to a part of the rim surface 107 or to a part of the sealed edge. However, it is also within the present invention that the bandage or foil 103 is sewed or glued to a part of the rim surface 107 or to a part of the sealed edge. Fig. 2 shows an embodiment, in which the bandage or foil 103 is connected to the back side wall 105, preferably at the centre of one of the four side edges, and to a part of the rim 107, which is not covered by the protective cover 106.

According to one embodiment of the invention, a bandage 103 being a self-adherent elastic bandage is attached to the cold pack or hot pack 101. In another embodiment of
the invention, a foil being 103 is attached to the cold pack or hot pack 101. This foil 103 may be a self-adherent plastic foil 103.

As illustrated in Figs. 1 and 2, a first end part of the bandage or foil 103 may be attached to the cold pack or hot pack 101, and a major part of the bandage or foil 103 may be rolled or coiled around a coiling part 104. The coiling part 104 may be made of plastic, cardboard, or wood. According to an embodiment of the invention, which is not illustrated in Figs. 1 and 2, the length of the coiling part 104 may be larger than the width of the coiled up bandage or foil 103, and the coiling part 104 may have a handle part extending below the coiled up bandage or foil 103.
KRAV

1. Et terapeutisk ispose- eller varmeposesystem kendetegnet ved:

5 Engangs is- eller varmepose hvor forsiden og bagsiden er forseglet sammen langs en kant eller kanter; herunder:
   • et beskyttelsesdække fastgjort til is- eller varmeposens bagside,
   • en selvkøbende elastisk bandage eller folie fastgjort til is- eller varmeposen
     - Kendetegnet ved og hvor den ene ende af bandagen eller foliet er fastgjort til is- eller varmeposen, og hvor en stor del af bandagen eller foliet rulles eller oprulles omkring en rulle.

10 2. Et system karakteriseret ved krav 1, hvor beskyttelsesdækket dækker mindst 50%, såsom mindst 60%, såsom mindst 70%, såsom mindst 80% eller såsom mindst 90% af bagsidens overflade.

15 3. Et system karakteriseret ved krav 1-2, hvor beskyttelsesdækket er fastgjort til bagsiden ved anvendelse af et klæbemiddel, ved svesning eller ved syning.

20 4. Et system karakteriseret ved et hvilket som helst af kravene 1-3, hvor beskyttelsesdækket består af stof eller tekstil såsom bomuld eller uld.

25 5. Et system karakteriseret ved et hvilket som helst af kravene 1-4, hvor beskyttelsesdækket består af en lap eller plaster.

6. Et system karakteriseret ved krav 1, hvor is- eller varmeposens forseglede kant eller kanter strækker sig langs en smal rand overflade.

7. Et system karakteriseret ved et hvilket som helst af kravene 1 og 6, hvor bandagen eller foliet er fastgjort til en del af rand overfladen eller til en del af den forseglede kant.

30 8. Et system karakteriseret ved nogen af kravene 1, 6 og 7, hvor bandagen eller foliet er svejset eller limet til en del af rand overfladen eller til en del af den forseglede kant