BANDING MATERIAL FOR THE TREATMENT OF WOUNDS
Heribert Stowasser, Neuwied (Rhine), Germany, assignor to Lehmann K.G., Fahr (Rhine), Germany
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I Claim. (Cl. 125—156)

Non-absorbent wound dressing material which is provided with a backing of absorbent layers has to engage the wound surface very closely. In this connection, however, it frequently occurs that the absorbent layers, when moist, tend to separate from the wound dressing because, due to the access of humidity, the original structure of layers changes more or less. The handling of the wound dressing, especially its removal, therefore presents difficulties.

If the wound dressing consists of a substantially closed foil adapted to allow steam to permeate therethrough, it is rather difficult to control the degree of the permeability for the wound exudate and it is also difficult to adapt the dressing to special wound treatments. Furthermore, the material does not readily indicate the permeability thereof.

In contrast thereto, according to the present invention, the wound covering for such bandaging material or dressing is so designed that the covering facing the wound consists of a form retaining solidified flexible layer of polyamides.

The form stability of the polyamide layer brings about a plane, wrinkle-free wound covering which is sufficiently flexible and assures a sufficient connection between the wound covering and the absorbent layers.

Preferably, the wound covering consists of monofil polyamides combined to a textile or a texture, in which the thickness of the fibers or the threads of the monofil material and the type of weaving of the fabric are selected in conformity with the desired permeability.

Therefore, being connected to the absorbent material, the polyamide fabric or texture is made shrink-proof by a heat treatment.

The polyamide covering facing the wound is connected to the intermediate layers in a form retaining manner. To this end, one or more further polyamide layers may be provided between the absorbent layers. In this instance, the polyamide layers are preferably secured to each other through an intermediate layer of absorbent material by fusing or gluing.

The polyamide layer may also be produced by spraying, rolling or otherwise transferring liquid polyamides to an absorbent backing. In connection therewith, it is also possible to provide the surface with an imprint or embossing which will be retained in its form in the polyamide layer. If desired, a plurality of correspondingly imprinted layers may be superimposed upon each other.

The polyamide layer may also be produced by combining polyamide fibers to a porous layer, however, in such a way that that side which is remote from the wound has a backing of absorbent material.

As absorbent material, layers of cellulose, cotton, or the like may be selected, however, also layers of non-swelling synthetic fibers may be used which are absorbent by the capillary spaces only which exist between the loosely superimposed fiber layers. Particularly suitable as absorbent material are layers of a fiber fleeces which is made without spinning or weaving from natural or synthetic cellulose fibers which are loosened in their structure and subsequently in half loosened condition are solidified under pressure. Such solidified fleeces may be used in any desired number of layers without additional adhesives.

Polyamides for the production of monofil textiles or similarly usable structure of individual fibers comprise synthetic materials obtained by the condensation of diamines with dicarbonic acids which for producing a porous layer are dissolved in solvents such as formic acid and acetic acid. Also combined condensates of corresponding chemical structure may be used for the above purpose.

The invention is illustrated in the accompanying drawings, in which:

FIG. 1 diagrammatically shows a section through a polyamide layer with a backing formed by an absorbent layer, FIG. 2 diagrammatically illustrates in section a multilayer bandaging material.

FIG. 3 is a top view upon the wound facing surface of a wound dressing.

In each of FIGS. 1, 2 and 3, the polyamide layer is designated with the reference numeral 10, while the absorbent layer is designated with the reference numeral 11. According to FIG. 2, the polyamide layer 10 facing the wound is followed by an absorbent layer 11 which in its turn is followed by a polyamide layer 12 covered by an absorbent layer 13. The dot-dash lines indicate that, besides textiles and textures, especially monofil layers of polyamides may be employed and also polyamide layers which are produced for instance by spraying which layers are connected through the absorbent layer 11 at 14 for instance by fusing. The absorbent layers 11, 13 may also consist of polyamide fibers.

The surface of the polyamide layer may be provided with imprints or embossings 15 of any desired design. These imprints may be employed for solidifying the polyamide layer facing the wound. The local imprints may correspond to the connecting bridges 14 in conformity with FIG. 2.

The polyamide layer consisting of solidified and interconnected threads or fibers is made shrink-proof by a heat treatment. In this way, the treating agents desired for the weaving of the threads, for instance agents preventing undesired electrostatic charges, may be eliminated by a boiling process which makes the polyamide texture shrink-proof. Also a dry heat treatment for shrink-proofing may be employed.

The wound covering according to the present invention will retain its shape and will remain wrinkle-free on the wound for any relatively long time. The wound covering according to the invention, therefore, makes possible a handling thereof in completely spread condition. The polyamide layer is shrink-proof so that a complete tranquilization of the wound will be obtained by the wound covering. The body portion adjacent the wound will not be affected by local different movements of the wound covering.

Smaller or larger portions of the wound covering will equally well retain their shape. Also with larger wound surfaces, the wound covering will remain completely flat. The wound exudate will be continuously conveyed to the absorbent layer through the permeable surface.

Surprisingly, it has been found that the polyamide layer will exclude the occurrence of sebaceous skin infections.

It will be understood that the illustrated embodiments are to be regarded as schematic examples only for the structure of the bandaging material according to the present invention. The shape, size, and thickness of the layers may be varied in conformity with the requirements.

What I claim is:

A bandaging material for the treatment of wounds, which includes a cover layer for covering the wound and a layer of absorbent material, said cover layer being flexible and comprising a polyamide fiber material in a solidified form retaining condition, said absorbent layer also including at least one intermediate layer of polyamide
fiber material, said cover layer and said intermediate layer being interconnected through said absorbent layer.

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