
Body-wearable medical device comprising a superabsorbent substance

The present invention relates to a body-wearable medical device comprising a medical device housing
5 comprising a transcutaneous element that is configured for being at least partially inserted into a
patient's body at an insertion site during use of the body-wearable medical device, and a base portion
that is configured for reversibly attaching the body-wearable medical device during its use to a patient's
skin, wherein the base portion comprises a first side that during use of the body-wearable medical
10 device faces the patient's body and that comprises an adhesive for adhering the body-wearable
medical device to a patient's skin.

During use, a hitherto known body-wearable medical device is releasably attached to a patient's skin
at an insertion site by means of the adhesive, wherein the transcutaneous elements is at least partially
inserted into a patient's body. Upon inserting the transcutaneous element at least partially into the
15 patient's body or during use of the body-wearable medical device, respectively, a bodily fluid such as
for example blood, wound exudate or interstitial fluid may flow out of the insertion lesion that has been
caused by the transcutaneous element. The flow of bodily fluids may contaminate not only the patient's
clothes, but may also contaminate the body-wearable medical device itself. When contaminating the
body-wearable medical device, in particular when covering sensor elements or electronics or when
20 entering the body-wearable medical device the bodily fluid may cause a malfunction of the body-
wearable medical device and may also pose a hygienic risk. Furthermore, bodily fluid flowing out of
the insertion lesion may reduce the adhesion of the adhesive of the first side of the base portion of the
body-wearable medical device. Thus, there is a chance that the body-wearable medical device
unintentionally detach from the patient's body.

25 Accordingly, it is an object of the present invention to provide a body-wearable medical device that
avoids at least one of the problems associated with medical devices known from prior art. In particular,
it is an object of the invention to provide a body-wearable medical device which is less prone to a
malfunction caused by a contamination by bodily fluid flowing out of the insertion lesion and/or that is
30 less prone to unintentionally detach from a patient's body.

At least one of the above objects is solved by the provision of the subject matter disclosed in the claims
and throughout the specification.

According to a first aspect, a body-wearable medical device is provided. The body-wearable medical device comprises a medical device housing comprising a transcutaneous element that is configured for being at least partially inserted into a patient's body at an insertion site during use of the body-wearable medical device, and a base portion that is configured for reversibly attaching the body-wearable medical device during its use to a patient's skin. The base portion comprises a first side that during use of the body-wearable medical device faces the patient's body and that comprises an adhesive for adhering the body-wearable medical device to a patient's skin. The base portion on its first side further comprises a superabsorbent substance and at least one fluid channel, the at least one fluid channel being configured to guide bodily fluid from the insertion site to the superabsorbent substance.

When being reversibly attached to a patient's skin by means of the adhesive of the first side of the base portion, the first side of the base portion faces the patient's body. A non-exhaustive list of examples of adhesives include, but are not limited to, acrylic-based, dextrin-based, urethane-based, rubber-based, polyvinyl-ether-based adhesives, and other adhesives based on natural and synthetic elastomers.

A second side of the base portion is arranged opposite to the first side, i.e. forming a side of the base portion that during use of the body-wearable medical device faces away from the patient's skin. The second side is attached to the medical device housing, such that the medical device housing during use of the body-wearable medical device is reversibly attached to a patient's skin via the base portion. For example, the medical device housing is attached to the second side by an adhesive or by ultrasound welding.

By being comprised on the first side of the base portion, the superabsorbent substance as well as the at least one fluid channel, thus, also faces the patient's body, such that a bodily fluid which may flow out of the insertion lesion caused by the transcutaneous element is guided by the at least one fluid channel to the superabsorbent substance. By guiding the bodily fluids from the insertion site to the superabsorbent substance the fluid channel facilitates that the superabsorbent substance absorbs the bodily fluids and helps to prevent the bodily fluids to bypass the superabsorbent substance. According to an embodiment the fluid channel is formed by silicone, directionally aligned fibers, directionally aligned capillary tubes, cellulose, or foam or a combination of the aforementioned. Without being bound to a particular theory, in an embodiment of the invention capillary forces guide body fluid from the insertion site to the superabsorbent substance. By way of example, the at least one fluid channel can be formed by a silicone structure that is configured to guide bodily fluids from the insertion site to the superabsorbent substance. The silicone structure can at least partially project from and/or at least being integrated into the first side of the base portion, such that during use of the body-wearable medical device, the silicone structure is in contact with the skin of the user and the base portion. The

silicone structure together with the base portion and the skin form a tunnel-shaped channel that guides a flow of bodily fluid from the insertion site to the superabsorbent substance.

After being guide to the superabsorbent substance, the bodily fluid is at least partially absorbed by the superabsorbent substance. Accordingly, the superabsorbent substance is configured for absorbing bodily fluids flowing out of an insertion lesion caused by the transcutaneous element. This is associated with the advantage, that the bodily fluid absorbed by the superabsorbent substance is retained therein and, thus, cannot contaminate anymore the body-wearable medical device and/or the patient's clothes. Furthermore, the absorbed and retained bodily fluid does not adversely affect the adhesion of the adhesive and thus prevents the body-wearable medical device from being unintentionally detached from a patient's body.

In the meaning of the present invention, a superabsorbent substance is able to absorb and retain large volumes of water in aqueous solutions. A superabsorbent substance in the meaning of the present invention is for example modified starch, polymerized polyvinyl alcohol (PVA) and polyethylene oxide (PEO) that are hydrophilic and have a high affinity to water. When being chemically or physically cross-linked, these superabsorbent substances become water-swellaable but not water-soluble. In an embodiment, the superabsorbent substance is a superabsorbent polymer in the form of granular particles, fibers, or a mixture thereof. In a further variant, the superabsorbent polymer is made by polymerization of acrylic acids blended with sodium hydroxide in the presence of an initiated polyacrylic acid sodium salt. Alternatively, the superabsorbent polymer can be an ethylene maleic anhydride copolymer, a cross-linked carboxymethylcellulose, a polyvinyl alcohol copolymer, a cross-linked polyethylene oxide, and a starch-grafted copolymer of polyacrylonitrile. Superabsorbent polymers can be made by standard methods such as by gel polymerization, suspension polymerization or solution polymerization.

According to an embodiment of the present invention, a body-wearable medical device is one of a drug delivery device such as an insulin pump, or a medical device that is configured for analyzing bodily fluid of a patient, in particular medical device for measuring an analyte such as a continuous glucose-monitoring device.

In an embodiment of the present invention, the transcutaneous element is a cannula, for example a soft cannula or a steel cannula, a probe that is configured for retrieving bodily fluid, or a sensor that is configured for analyzing bodily fluid. Presence of a transcutaneous element does not exclude a presence of additional elements. For example, in case the transcutaneous element is a cannula of a drug delivery device or of an insulin pump, respectively, the drug delivery device or the insulin pump may further comprise an additional transcutaneous element such as for example a probe or sensor of a type as outlined above. Likewise, in case of a continuous glucose-monitoring device the transcutaneous element is a probe or a sensor of a type as outlined above, and the continuous glucose

monitoring device may further comprise an additional probe or a sensor or a cannula of a type as outlined above.

5 According to an embodiment, the body-wearable medical device is a drug delivery device or an insulin pump, wherein the transcutaneous element is a cannula, for example a soft cannula or a steel cannula. In another embodiment, the body-wearable medical device is a continuous glucose monitoring device, wherein the transcutaneous element is a probe or sensor of a type as outlined above, i.e. a probe that is configured for retrieving bodily fluid, or a sensor that is configured for analyzing bodily fluid.

10 Apart from comprising an adhesive, in an embodiment, the base portion further comprises a pad that during use of the body-wearable medical device is adhered to the patient's body by means of the adhesive. In order to improve the handling of the body-wearable medical device and to prevent the adhesive from being unintentionally worn, the adhesive can be covered by one or more backing layers that have to be peeled off from the adhesive before use of the body-wearable medical device. The
15 pad can comprise one or more of a sterile non-woven, cellulose, tissue or paper.

Additionally or alternatively, in an embodiment, the base portion is vapor permeable and/or comprises a vapor permeable membrane that is configured to allow vapor to flow through the base portion and/or the vapor permeable membrane. Moisture that, during use of the body-wearable medical device, may
20 prone to accumulate in or underneath the base portion can at least partially evaporate through the base portion and/or the vapor permeable membrane. Evaporation of vapor through the base portion and/or the vapor permeable membrane helps to provide a wound-healing and/or skin-friendly environment around the insertion site and underneath the body-wearable medical device. Furthermore, an evaporation of moisture helps to reduce an accumulation of moisture underneath the
25 body-wearable medical device, and, thus, helps to hinder an unintended detachment of the body-wearable medical device.

In an embodiment, the superabsorbent substance at least partially circumscribes the transcutaneous element. In the meaning of the present invention, at least partially circumscribing means that the
30 superabsorbent substance comprises segments that are arranged on the first side of the base portion in at least two different angular positions relative to the transcutaneous element. The superabsorbent substance can form a continuous structure or a discontinuous structure. In the meaning of the present invention, a continuous structure is a structure that circumscribes the transcutaneous element without having a gap therein through which bodily fluid flowing out of the insertion site along the first side of
35 the base portion can pass the superabsorbent structure without moisten the superabsorbent substance.

In an embodiment, the superabsorbent substance forms an enclosure on the first side of the base portion, wherein the superabsorbent substance circumscribes the transcutaneous element. An

enclosure that circumscribes the transcutaneous element is a continuous structure surrounding the transcutaneous element. The superabsorbent substance is configured for absorbing and retaining bodily fluids, and may also form a barrier preventing bodily fluids from flowing beyond the area that is enclosed by the superabsorbent substance. According to an embodiment, the enclosure forms a ring
5 that circumscribes the transcutaneous element.

According to an embodiment of the body-wearable medical device, the superabsorbent substance on the first side of the base portion forms a discontinuous enclosure by having multiple enclosure segments that are displaced from each other along a first virtual enclosure around the medical device
10 housing. The enclosure is discontinuously formed on the first side of the base portion by multiple enclosure segments that are displaced from each other along a first virtual enclosure. The first virtual enclosure circumscribes the transcutaneous element along a geometric shape. A non-exhaustive group of geometric shapes comprises by way of example a ring, an ellipse, a rectangle and a polygon. By being displaced from each other along the first virtual enclosure, there is a gap between
15 neighboring enclosure segments. The spacing between neighboring enclosure segments help that the structured formed by the superabsorbent substance can be more flexibly adapted to the body shape at the insertion site. In an embodiment, the multiple enclosure segments are ring segments that are displaced from each other along a first virtual ring. In an embodiment each segment is connected to at least one of the at least one fluid channel, in another embodiment each segment is connected to 1
20 to 4 fluid channels, or to 1 to 3 fluid channels or to 1 to 2 fluid channels or to 1 fluid channel.

In an embodiment, the superabsorbent substance on the first side of the base portion form a continuous or discontinuous inner enclosure and a continuous or discontinuous outer enclosure. The inner and outer enclosure, both form a barrier for absorbing and retaining bodily fluids flowing out of
25 an insertion lesion during use of the body-wearable medical device. Since the inner and outer enclosure at least partially circumscribe the transcutaneous element, the terms "inner" and "outer" refers to the radial distance of the respective inner enclosure and outer enclosure from the transcutaneous element along the first side of the barrier. According to an embodiment, the inner enclosure is continuously formed along a first virtual enclosure, while the outer enclosure is
30 discontinuously formed along a second virtual enclosure. In an embodiment, the distance between the insertion site and the most distant part of the inner enclosure is smaller than the distance between the insertion side and the closest distant part of the outer enclosure. In an embodiment the inner and outer enclosure are concentrically arranged with transcutaneous element in the center. The inner enclosure and the outer enclosure can form two concentric rings. In an embodiment, the inner enclosure is
35 discontinuously formed along a first virtual enclosure, while the outer enclosure is continuously formed along a second virtual enclosure. In yet another embodiment, the inner enclosure is continuously formed along a first virtual enclosure and the outer enclosure is continuously formed along a second virtual enclosure. In another embodiment, the inner enclosure is discontinuously formed along a first virtual enclosure and the outer enclosure is continuously formed along a second virtual enclosure.

In an embodiment, the superabsorbent substance on the first side of the base portion forms a discontinuous inner enclosure having multiple inner enclosure segments and a discontinuous outer enclosure having multiple outer enclosure segments, wherein the multiple inner enclosure segments and the multiple outer enclosure segments are alternately arranged with respect to an angular position relative to the transcutaneous element along a first virtual enclosure and along a second virtual enclosure. The inner enclosure and the outer enclosure together form a barrier for absorbing and retaining bodily fluids originating from an insertion lesion caused by the transcutaneous element. The multiple inner enclosure segments and the multiple outer enclosure segments are arranged on the first side of the base portion along a first virtual enclosure and a second virtual enclosure, respectively, wherein the inner enclosure segments and the outer enclosure segments are alternately arranged at different angular positions relative to the transcutaneous element. In an embodiment, the inner enclosure segments and the outer enclosure segments are formed by ring segments.

According to an embodiment, the base portion further comprises a septum that is configured for being pierced by the transcutaneous element during use of the body-wearable medical device. During use of the body-wearable medical device, the septum of the base portion is traversed by the transcutaneous element. According to an embodiment, the septum is a self-sealing septum i.e. when the transcutaneous element (such as a cannula, sensor, etc.) has been inserted through the septum and is afterwards removed, the septum will close and forms a barrier for microorganisms and bodily-fluids. The self-sealing septum can for example be made of silicone, plastic, polyurethane foam or combination thereof.

In an embodiment, the first side of the base portion further comprises an outer sealing element that circumscribes the superabsorbent substance on a side of the superabsorbent substance facing away from the transcutaneous element. The outer sealing element helps to retain bodily fluid within the area encircled by the outer sealing element. The outer sealing elements form a barrier in addition to the superabsorbent substance that forms a first barrier for bodily fluids. In contrast to the superabsorbent substance, the outer sealing element in the meaning of the present invention does not significantly absorb bodily fluid when compared with the superabsorbent substance. In an embodiment, the outer sealing element is formed by a hydrophobic material. By being arranged on an outer side of the superabsorbent substance, i.e. the side of the superabsorbent substance facing away from the transcutaneous element, the sealing element forms an outer boundary, when being viewed from the perspective of the transcutaneous element.

According to an embodiment, the first side of the base portion further comprises an inner sealing element on a side of the superabsorbent substance facing the transcutaneous element. The sealing element forms an inner barrier helping to retain the bodily fluid within the area encircled by the inner sealing element. The inner sealing element being arranged on a side of the superabsorbent substance

facing the transcutaneous element forms an inner barrier. The inner sealing element encircles an area of the first side of the base portion containing the transcutaneous element. The superabsorbent substance is arranged outside of the area encircled by the sealing that is arranged on a side of the superabsorbent substance facing the transcutaneous element.

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In an embodiment, the inner sealing element and/or the outer sealing element, if present, is formed by or comprise a silicone structure that at least partially projects away from the first side of the base portion and/or is integrated in the first side of the base portion, such that, during use of the body-wearable medical device, the silicone structure is in contact with the base portion and the skin of the user. By way of example, the inner sealing element and/or the outer sealing element, can be made of or comprise a lip or a structure that, during use of the body-wearable medical device, at least partially projects from the first side of the base portion towards the skin of a user or that is in contact with the skin of a user. The lip or structure can be, by way of example, a silicone lip or a silicone structure that forms a physical barrier that hinders bodily fluid passing the barrier.

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In an embodiment, the first side of the base portion comprises a plaster that carries the adhesive for attaching the body-wearable medical device to a patient's body. The plaster can help to adhere the body-wearable medical device to the body shape at the insertion side.

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Further advantages, features and technical effects of the present invention are apparent from the following description of embodiments and the accompanying figures.

Figure 1 shows a cross-section of a body-wearable medical device according to an embodiment of the invention;

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Figure 2 shows a top view of a body-wearable medical device according to the embodiment of figure 1;

Figure 3 shows a top view of a body-wearable medical device according to the embodiment of the present invention;

Figure 4 shows a cross-section of a body-wearable medical device according to an embodiment of the present invention;

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Figure 5 shows a cross-section of a body-wearable medical device according to an embodiment of the present invention;

Figure 6 shows a cross-section of a body-wearable medical device according to yet another embodiment of the present invention; and

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Figure 7 shows a top view of a body-wearable medical device according to another embodiment of the present invention.

Figures 1 and 2 show an embodiment according to a first embodiment of the present invention, wherein figure 1 shows a cross-section of the body-wearable medical device 1 while figure 2 shows a

top view of the body-wearable medical device 1. The body-wearable medical device 1 comprises a medical device housing 18 and a transcutaneous element 2. The transcutaneous element 2 is configured for being at least partially inserted into the skin of a patient's body 3 at an insertion site 4 during use of the body-wearable medical device 1. Here the transcutaneous element 2 is a cannula
5 by way of example. Alternatively, the transcutaneous element 2 can be a probe that is configured for retrieving bodily fluid or a sensor that is configured for analyzing bodily fluid.

In figure 1, the patient's body 3 and the insertion site 4 are shown to explain the intended use of the body-wearable medical device 1 by way of an example.

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The body-wearable medical device 1 further comprises a base portion 5. The base portion 5 has a first side 6a that during use of the body-wearable medical device 1 faces the patient's body 3. For adhering the body-wearable medical device 1 during its use to a patient's skin, the first side 6a of the base portion 5 further comprises an adhesive 7. The base portion 5 further comprises a second side
15 6b opposite to the first side 6a and, during use, facing away from the patient's body. The second side 6b is coupled to the medical device housing 18.

When being at least partially inserted into the patient's body 3, the transcutaneous element 2 forms an opening in the patient's skin. Bodily fluids flowing out of this opening may contaminate or negatively
20 affect the functionality of the body-wearable medical device 1 or may contaminate the patient's clothes. However, for absorbing and retaining bodily fluids that, during use of the body-wearable medical device 1 may flow out of an opening caused by the transcutaneous element 2, a superabsorbent substance 8 and fluid channel 9 is provided on the first side 6a of the base portion 5 of the body-wearable medical device 1. The fluid channel 9 guides the bodily fluids from the insertion site 4 towards
25 the superabsorbent substance 8.

As shown in the top view of figure 2, the superabsorbent substance by way of example form a continuous structure circumscribing the transcutaneous element 2 of the body-wearable medical device 1. The adhesive 7 for adhering the body-wearable medical device 1 to a patient's skin is carried
30 by a plaster 17 that is provided on the first side 6a of the body-wearable medical device 1. In the top view, the plaster 17 extends beyond the projection of the base portion 5 of the body-wearable medical device 1.

Figure 3 shows a top view of a body-wearable medical device 1 according to another embodiment of the present invention. The embodiment of figure 3 differs from the embodiment of the body-wearable
35 medical device 1 as shown in figures 1 and 2 by additionally comprising a fluid channel 9. Fluid channel 9 is configured for guiding bodily fluids from the insertion site 4 to the superabsorbent substance 8. Here the fluid channel 9 comprise four arms forming a cross and which funnel bodily fluid from the insertion site 4 of the transcutaneous element 2 into the superabsorbent substance 8.

Figure 4 shows a cross-section of a body-wearable medical device 1 that differs from the embodiment according to figures 1 and 2 in having a differently shaped superabsorbent substance 8. Here, the superabsorbent substance 8 forms a continuous inner enclosure and a continuous outer enclosure, both circumscribing the transcutaneous element 2 along the first side 6a of the base portion 5. The continuous inner enclosure and the continuous outer enclosure form two concentrically circles, wherein the common center of the two circles is formed by the transcutaneous element 2.

Figure 5 shows a cross-section of a further embodiment of the body-wearable medical device 1 according to the present invention. The body-wearable medical device 1 according to the embodiment of figure 5 differs from the embodiment according to figure 1 by having an outer sealing element 16. The outer sealing element 16 circumscribes the superabsorbent substance 8 on a side of the superabsorbent substance 8 facing away from the transcutaneous element 2. Accordingly, the superabsorbent substance 8 as well as the transcutaneous element 2 is encircled by the outer sealing element 16, and thus arranged within an area of the first side 6a of the base portion 5 circumscribed by the outer sealing element 16.

Figure 6 shows a cross-section of yet another embodiment of the body-wearable medical device 1 according to the present invention. The body-wearable medical device 1 of figure 6 differs from the body-wearable medical device 1 of figure 5 by additionally having an inner sealing element 15. The inner sealing element 15 circumscribes the transcutaneous element 2 on a side of the superabsorbent substance 8 that faces the transcutaneous element 2, and thus is placed in a smaller radial distance from the transcutaneous element 2 than the superabsorbent substance 8. The first side 1 of the base portion 5 of the body-wearable medical device 1 according to figure 6 further additionally comprises a septum 14. Septum 14 is configured for being pierced by the transcutaneous element 2 during use of the body-wearable medical device 1.

Figure 7 shows a top view of a body-wearable medical device 1 according to another embodiment of the present invention. The body-wearable medical device 1 of figure 7 differs from the body-wearable medical device 1 according to figure 1 by having a superabsorbent substance 8 that forms a discontinuous inner enclosure and a discontinuous outer enclosure. The discontinuous inner enclosure is formed by multiple inner enclosure segments 10, and the discontinuous outer enclosure 12 are formed by multiple outer enclosure segments 11. The multiple inner enclosure segments 10 are arranged on the first side 6a of the base portion 5 along a first virtual enclosure 12, while the multiple outer enclosure segments 11 are arranged on the first side 6a of the base portion 5 along a second virtual enclosure 13. The inner enclosure segments 10 and the outer enclosure segments 11 are alternately arranged at different angular positions with respect to the transcutaneous element 2. Each of the inner enclosure segments 10 and each of the outer enclosure segments 11 are connected

to a fluid channel 9, wherein each of the fluid channels 9 is configured to guide bodily fluid flowing out of the insertion site to the superabsorbent substance 8 of the respective segments 10, 11.

List of reference numbers

	1	Body-wearable medical device
5	2	Transcutaneous element
	3	Patient's body
	4	Insertion site
	5	Base portion
	6a	First side of base portion
10	6b	Second side of base portion
	7	Adhesive
	8	Superabsorbent substance
	9	Fluid channel
	10	Inner enclosure segments
15	11	Outer enclosure segments
	12	First virtual enclosure
	13	Second virtual enclosure
	14	Septum
	15	Inner sealing element
20	16	Outer sealing element
	17	Plaster
	18	Medical device housing
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Claims

1. A body-wearable medical device (1) comprising
a medical device housing (18) comprising a transcutaneous element (2) that is configured
5 for being at least partially inserted into a patient's body (3) at an insertion site (4) during use of
the body-wearable medical device (1), and
a base portion (5) that is configured for reversibly attaching the body-wearable medical
device housing (18) during its use to a patient's skin,
wherein the base portion (5) comprises a first side (6a) that during use of the body-
10 wearable medical device (1) faces the patient's body (3) and that comprises an adhesive (7) for
adhering the body-wearable medical device housing (18) to the patient's skin,
characterized in that
the base portion (5) on its first side (6a) further comprises a superabsorbent substance
(8) and at least one fluid channel, the at least one fluid channel (9) being configured to guide
15 bodily fluid from the insertion site (4) to the superabsorbent substance (8).
2. Body-wearable medical device (1) according to claim 1, characterized in that the
superabsorbent substance (8) at least partially circumscribes the transcutaneous element (2).
- 20 3. Body-wearable medical device (1) according to any claim 1 or 2, characterized in that the
superabsorbent substance (8) forms an enclosure on the first side (6a) of the base portion (5),
wherein the superabsorbent substance (8) circumscribes the transcutaneous element (2).
4. Body-wearable medical device (1) according to any one of claims 1 to 3, characterized in that
25 the superabsorbent substance (8) on the first side (6a) of the base portion (5) forms a
discontinuous enclosure by having multiple enclosure segments (10) that are displaced from
each other along a first virtual enclosure (12).
5. Body-wearable medical device (1) according to any one of claims 1 to 4, characterized in that
30 the superabsorbent substance (8) on the first side (6a) of the base portion (5) forms a continuous
or discontinuous inner enclosure and a continuous or discontinuous outer enclosure.
6. Body-wearable medical device (1) according to any one of claims 1 to 5, characterized in that
35 the superabsorbent substance (8) on the first side (6a) of the base portion (5) forms a
discontinuous inner enclosure having multiple inner enclosure segments (10) and a
discontinuous outer enclosure having multiple outer enclosure segments (11), wherein the
multiple inner enclosure segments (10) and the multiple outer enclosure segments (11) are
alternately arranged with respect to an angular position relative to the transcutaneous element
(2) along a first virtual enclosure (12) and along a second virtual enclosure (13).

7. Body-wearable medical device (1) according to any one of claims 1 to 6, characterized in that the base portion (5) further comprises a septum (13) that is configured for being pierced by the transcutaneous element (2) during use of the body-wearable medical device (1).
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8. Body-wearable medical device (1) according to any one of claims 1 to 7, characterized in that the first side (6a) of the base portion (5) further comprises an outer sealing element (14) that circumscribes the superabsorbent substance (8) on a side of the superabsorbent substance (8) facing away from the transcutaneous element (2).
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9. Body-wearable medical device (1) according to claim 8, characterized in that the outer sealing element (14) is formed by or comprise a silicone structure that at least partially projects away from the first side (6a) of the base portion (5) and/or is integrated in the first side (6a) of the base portion, such that, during use of the body-wearable medical device (1), the silicone structure is in contact with the base portion (5) and the skin of the user.
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10. Body-wearable medical device (1) according to any one of claims 1 to 9, characterized in that the first side (6a) of the base portion (5) further comprises an inner sealing element (15) on a side of the superabsorbent substance (8) facing the transcutaneous element (2).
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11. Body-wearable medical device (1) according to claim 10, characterized in that the inner sealing element (15) is formed by or comprise a silicone structure that at least partially projects away from the first side (6a) of the base portion (5) and/or is integrated in the first side (6a) of the base portion, such that, during use of the body-wearable medical device (1), the silicone structure is in contact with the base portion (5) and the skin of the user.
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12. Body-wearable medical device (1) according to any one of claims 1 to 11, characterized in that the first side (6a) of the base portion (5) comprises a plaster (17) that carries the adhesive (7) for attaching the body-wearable medical device (1) to a patient's body (3).
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13. Body-wearable medical device (1) according to any one of claims 1 to 12, characterized in that each of the inner enclosure segments (10) and outer enclosure segments (11) is connected to at least one of the at least one fluid channel (9).
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