



A urine guide device for women

Field of Invention

- 5 The present invention relates to a urine guide device for women.

Background of the Invention

Public toilets are often not clean and therefore it is difficult to find clean public
10 toilets when one is away from home, particularly when traveling. Hence, many
women have problems with regard to the cleanliness of public toilets and are
reluctant or hesitant to sit on the toilet seats in public toilets which are usually
unhygienic and dirty. However, physiological considerations require women to
urinate in a seated position. Devices that allow women to urinate without
15 contacting toilet seats or more accurately in a standing position are therefore
introduced. Such devices are generally made of paper in a funnel-like shape when
unfolded. Women can manually hold in place such devices while standing erect.
The devices have an inlet for the purpose of receiving urine stream and an outlet
to channel and discharge the urine out elsewhere. Many of the earlier versions of
20 these devices are made of flimsy sheet material, usually treated paper which is
temporarily waterproof. These devices are not user-friendly as they are normally
difficult to hold in place and require the user to clamp the device in place with her
fingers. If the device is not positioned properly, the result can be unpleasant or
embarrassing.

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Such paper devices intended for single use are disclosed for example in
US5,243,712 by Cross; US5,333,330 by Murtagh; EP1055402 by Sima et al.,
US5408703 and US5742948 both by Cicio.

- 30 There are however similar devices that have a disposable component which is to
be used in complimentary with another component that holds the disposable
component. These devices are described in for example US4,305,161 by Diaz and
US5,571,095 by Lu. US4, 305,161 discloses a urinating aid for women comprising



a disposable waterproof bag held open by a substantially wishbone-shaped support frame. US5,571,095 describes a disposable urine bag that is held open by a frame to which the bag is fitted by a bracket. However, the structures of these urinating aids are complicated and the assembly of the disposable component to
5 the holding component is cumbersome and inconvenient.

Some of the holding components of these prior devices are of a conical shape which takes up space and are relatively large in size. In addition thereto, many of the prior devices are uncomfortable to use.

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Summary of the Invention

The aim of the present invention is to provide a urine guide device which solves the problems and shortcomings of prior devices.

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An object of the present invention is to provide a urine guide device which enables a female, when faced with poor sanitary facilities to urinate without coming into contact with an unhygienic toilet seat.

20 Another object of the present invention is to provide a urine guide device that enables female to urinate in a standing position.

It is a further object of the present invention to provide a urine guide device which is ergonomically shaped to fit the human body, simple in structure, easy to apply,
25 and comfortable to use.

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Another object of the present invention is to provide a urine guide device for women which enables a woman to urinate without the necessity to remove her panties.

A further object of the present invention discloses a urine guide device that can be used to hygienically collect a urine specimen into a container such as a specimen bottle used for urine tests.

The present invention relates to a urine guide device for women which is to be adherent to the vulva, to receive urine and to direct it away from the body of the user, and thus permits a woman to urinate conveniently even in a standing
5 position.

In one aspect of our invention, it is provided a urine guide device which comprises a guide member to be attached to a support member when in use. The support member which is reusable has a top opening and a bottom opening which are
10 connected by an enclosed wall that is just wide enough to be held by at least two fingers. As the top opening will be fitted against and further encloses the vulva region, it is shaped and contoured ergonomically to fit the vulva region. Preferably, the opening is substantially of an oval shape. A thickened rim is provided around the edge of the top opening to enhance the fitting.

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The guide member of the present invention is substantially conical-shaped with a wide top opening which is in similar shape to that of the top opening of the support member and a narrow bottom opening. The guide member which is disposable would be inserted into the support member when in use in such a way that the top
20 opening of the guide member will be aligned to the top opening of the support member whereby the upper part of the guide member is surrounded by the enclosed wall of the support member and the lower part of the guide member extends downwardly and is exposed.

25 In the preferred embodiment of the present invention, the guide member further comprises at least one outer lip at the edge of the top opening of the guide member for the purpose of mounting of the guide member onto the thickened rim of the support member. When the device is in use, the outer lip is outwardly folded so that it becomes substantially horizontal. Preferably, the outer lip is in multiple of
30 twos as shown in Figure 3. To provide optimum functionality, the outer lip may further comprises adhesive means at the surface which is in contact with the thickened rim of the support member so that the guide member can be firmly mounted onto the support member.

Another aspect of the present invention relates to a urine guide device as described above of which the guide member further comprises a fastening means at the tip of the bottom opening. Such fastening means may be provided to facilitate the transfer of the urine that flows into the guide member into a container. A conduit can be connected to the fastening means at one end and to a urine collecting container such as a urine bag at the other end to collect urine, particularly for clinical or medical purposes or for the use of a patient in hospital.

10 **Brief description of drawings**

For a better understanding, the present invention will now be described with reference to the accompanying drawings in which:

15 Figure 1 is a perspective view of the support member of the urine guide device according to the preferred embodiment of the present invention.

Figure 2 is a perspective view of the guide member of the urine guide device according to the preferred embodiment of the present invention.

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Figure 3 is a perspective view of the urine guide device of the present invention that is connected to a urine bag by a conduit utilizing the fastening means that can be constructed at the bottom opening of the guide member.

25 **Detailed description of the preferred embodiment**

The description in detail for the preferred embodiments of the present invention will now be given, illustrated by the accompanied drawings. While the invention will be described in conjunction with the preferred embodiments, it should be understood that they are not intended to limit the invention to those embodiments.

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With reference to Figures 1 and 2, the preferred embodiment of the present invention is shown wherein the urine guide device (10) comprises a support member (20) as shown in Figure 1 and a guide member (40) as shown in Figure 2.

- 5 The support member (20) of the present invention comprises a top opening (22) and a bottom opening (24), which are connected by an enclosed wall. As the top opening will be fitted against and further encloses the vulva region, it is shaped and contoured ergonomically to fit the vulva region. The shape of the top opening (22) is substantially of an oval shape. The top opening (22) further comprises a
10 thickened rim (28) around it and the thickened rim (28) is designed to improve the connection between the top opening (22) of the support member (20) and vulva region so that the top opening (22) can be engaged seamlessly when it is pressed against the vulva region. The surface of the thickened rim (28) may be of a smooth texture so that it is comfortable when in contact with vulva region. Preferably, the
15 wall (26) of the support member (20) is just wide enough to be held with two fingers. In a preferred embodiment of the present invention, the top opening (22) is relatively wider than the bottom opening (24).

The guide member (40) which is to be attached to the support member (20) when
20 in use is substantially conical-shaped. It has a wide top opening (42) that is to be mounted onto the thickened rim (28) of the support member (20) and a narrow bottom opening (44) which extends downwardly beyond the bottom opening (24) of the support member (20). In the preferred embodiment of the present invention, the guide member (40) further comprises at least one outer lip (46) that extends
25 around the edge of the top opening (42) of the guide member (40) for mounting of the guide member (40) onto the thickened rim (28) of the support member (20). The outer lip (46) may be in the number of multiple of twos.

When not in use, the guide member (40) is folded flat for ease of storage or for
30 portability. Its tapered configuration makes it possible for longitudinal folding at its axis.

When in use, the guide member (40) is unfolded from a substantially flat folded orientation by pressing the folded edge towards one another until a substantially conical shape is formed. The outer lip (46) is then outwardly folded so that it becomes substantially horizontal as shown in Figure 2.

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To optimize its functionality and effectiveness, an adhesive means is preferably to be provided to the outer lip (46) on the surface which is in contact with the thickened rim (28) of the support member (20) when in use. The preferred mode of adhesion is by way of double-sided adhesive tape (50).

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The tapered body (48) of the guide member (40) according to the present invention is preferably inclined downwardly and forwardly towards the anterior of the guide member. Preferably, it is extending forwardly at a pre-determined angle with reference to the central axis (56) as shown in Figure 2. The angle is

15 preferably in the range of about 30 to 65 degrees.

The support member (20) of the present invention is fabricated from any one or combinations of Poly Vinyl Chloride (PVC) or rubberized material. Whereas, the guide member (40) is fabricated from paper that is treated with an impermeable coating, which is sufficiently water-repellent to enable urination without undesirable leakage of liquids and is inexpensive enough to be disposed. In this respect, paper such as those commonly used in food industry to contain liquefied food may be used to fabricate the guide member. Such material is inexpensive and is easily available in the market.

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According to another aspect of the present invention, the afore-described guide member (40) may further comprises a fastening means (52) at the tip of the bottom opening (44) for the purpose of connection to an external container by way of a conduit (54) as shown in Figure 3. The fastening means is preferably a projection (52) comprising screw threading on the exterior surface to enable one end of the conduit (54) which comprises screw threading on the interior surface to be secured to it to provide leakage-proof connection. The other end of the conduit (54) may then be connected to a container such as urine bag for the purpose of

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urine collection. The projection (52) may be fabricated from Poly Vinyl Chloride (PVC) or rubberized material.

In order to use the present invention as a urine guide device, firstly, the guide member (40) may be unfolded into a substantially conical shape by pressing the folded edges towards one another; secondly, the outer lip (46) is folded in an outward direction so that it becomes substantially horizontal; thirdly, insert the guide member into the support member and connect the outer lip (46) to the thickened rim (28) of the support member (20) by using the double-sided adhesive tape (50) that is on one side of the outer lip (46). The upper part of the guide member (40) should be surrounded by the enclosed wall (26) support member (20) and the lower part of the guide member (40) should be extending downwardly beyond the bottom opening (44) of the support member (20).

The user may hold the assembled device at the wall (26) of the support member (20) with fingers and press the thickened rim (28) at the top opening (22) against the vulva region so that it smoothly and seamlessly encloses the vulva region. The urine will first flow into the top opening (22) of the guide member (40) and is directed to the bottom opening (44) of the guide member (40) through which the urine flows out of the guide member (40). After urination is completed, the guide member (40) can be conveniently removed from the support member (20) simply by detaching the outer lip (46) from the thickened rim (28), after which the guide member (40) can be disposed off and the support member (20) can be kept for future use.

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Generally, the urine guide device (10) of the present invention is more portable as compared to the prior devices because of its size which is relatively smaller than those prior devices. The present invention solves the problems of those prior devices which are normally made of paper that may be comparatively difficult to hold in place or to maintain its shape. It is therefore possible that urine may not be properly channeled and leakage may occur. The present invention also solves the problems of prior devices that comprise a disposable component and a holding component that holds the disposable component. The holding component of the

prior devices which resembles the support member (20) of the present invention is normally bigger in size than the support member (20) of the present invention. There are basically two types of holding component in the prior devices i.e. the holding component that is in the shape of funnel and the holding component that is in the design of tongs or a wishbone structure that can be inserted into the seams provided at the upper part of the disposable component. For the first type of the holding components, the funnel shape is space consuming and is relatively large to be carried in handbags. Whereas, in the present invention, the funnel shape of the prior devices is replaced by the guide member which is foldable and more flexible. Furthermore, the support member (20) of the present invention is much shorter as compared to the funnel-shaped holding components in prior devices. With the present invention, the user will only need to carry the support member (20) which is relatively smaller in size and to unfold and adhere the guide member (40) to the support member (20) when such device needs to be used.

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In addition, the urine guide device of the present invention also has a better grip and is easier to be slid into the gap between inner thighs and to be pressed against the vulva region because of its specially designed structure, shape and size. The invention can even be used without the removal of the panties. The user may push the panties to the side and use the device in the above-described manner as long as the top opening of the support member is properly connected with the vulva area.

The urine guide device of the present invention may be used on occasions such as when collecting urine sample or when urination in a standing position is desirable, e.g. when only unhygienic facilities are available or when there is an unavailability of toilet. The guide member of the present invention facilitates direct collection of urine sample into a specimen bottle without splashing on the body or clothing of the user. To enhance the result, the bottom opening of the guide member is designed to have a smaller diameter than the standard diameter of the opening of specimen bottle.

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The disposable guide member permits the support member to be used repeatedly with complete safety. The device requires only minimum amount of cleansing and maintaining after use, if necessary.

- 5 The foregoing descriptions of specific embodiments of the present invention have been presented for purposes of illustrations and descriptions. They are not intended to be exhaustive or to limit the invention to the precise forms disclosed, and obviously many modification and variations are possible. The embodiments were chosen and described in order to best explain the principles of the invention
- 10 and its practical application, to hereby enable others skilled in the art to best utilize the invention and various embodiments with various modifications as are suited to the particular are contemplated. It is intended that the scope of the invention be defined by the claims appended hereto and their equivalents.

Claims

1. A urine guide device (10) to direct the discharge of urine away from the body of a user comprises:
 - 5 a). a support member (20) having a top opening (22) and a bottom opening (24) which are connected by an enclosed wall (26); said top opening (22) further comprises a thickened rim (28) around the edge of said top opening (22) which is contoured to fit against and encloses the vulva region; and said enclosed wall (26) is just wide enough to be held by at least two fingers
 - 10 b). a guide member (40) being inserted into the support member (20) when in use; said guide member (40) having a tapered body (48) with a wide top opening (42) which is in similar shape to that of said top opening (22) of said support member (20) and a narrow bottom opening (44); said top opening (42) of said guide member (40) is mounted onto said thickened rim (28) of
 - 15 said support member (20) and said top opening (42) of said guide member (40) directs the urine away from the body of the user to said bottom opening (44) of said guide member (40) through which the urine flows out; the upper part of said guide member (40) is surrounded by said enclosed wall (26) and the lower part of the guide member (40) is extending beyond said bottom
 - 20 opening (24) of said support member (20) and is exposed;
said guide member (40) further comprising at least one outer lip (46) extends around the edge of said top opening (42) for mounting of said guide member (40) onto said thickened rim (28) so that the guide member (40) is firmly mounted onto it.
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2. A urine guide device (10) according to claim 1 wherein said top opening (22) of said support member (20) is substantially of an oval shape.
3. A urine guide device (10) according to claim 1 wherein said guide member (40) is substantially of a conical shape.
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4. A urine guide device (10) according to claim 1 wherein said outer lip (46) can be in a number of multiple of twos.
5. A urine guide device (10) according to any one of claims 1 to 4 wherein said
5 outer lip (46) further comprises adhesive means for mounting of the guide member (40) onto the thickened rim (28) so that the upper part of the guide member (40) is surrounded by the enclosed wall (26) and the lower part of the guide member (40) extends downwardly beyond said bottom opening (44) of said support member (20).
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6. A urine guide device (10) according to claim 5 wherein said adhesive means is adhesive tape (50) provided on the surface which is in contact with the thickened rim (28) so that said guide member (40) can be firmly mounted onto the support member (20) when in use.
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7. A urine guide device (10) according to any of claims 1 to 6 wherein said support member (20) is fabricated from any one or a combination of Poly Vinyl Chloride (PVC) or rubberized material.
- 20 8. A urine guide device (10) according to claim 1 wherein said guide member (40) is fabricated from water repellent material.
9. A urine guide device (10) according to claim 1 wherein said device further comprises a conduit (54) connected to said bottom opening (44) of said guide
25 member (40) at one end and to a collecting container at the other end.
10. A urine guide device (10) according to claim 9 wherein said conduit (54) is connected to said bottom opening (44) of said guide member (40) via a fastening means (52).
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11. A urine guide device (10) according to claim 10 wherein said fastening means (52) is a projection comprising screw threading on the exterior surface

to enable one end of the conduit (54) which comprises screw threading on the interior surface be connected to said guide member (40).