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PROPHYLACTIC DEVICE

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ABSTRACT OF THE DISCLOSURE

A medicated prophylactic device comprising, in combination, an elastic tubular sheet having an open or proximal end and a closed or distal end, and provided adjacent the inner surface of the distal end thereof with about 0.2 to 5 cc. of a readily water-dispersible desensitizing composition having a creamy consistency, said composition containing about 0.5 to 25% by weight of a desensitizing agent selected from the group consisting of benzocaine, procaine, xylocaine, hydroxy-procaine, 2-chloro-procaine, piperocaine, hexylcaine, tetracaine, laro-
 caine, and diethoxin, the amount of said composition and the concentration of the desensitizing agent in said composition being effective for only temporarily desensitizing a body member inserted in said device.

This invention relates to a protective sheath for surgical and medical use, and more particularly to an improved prophylactic device for use on an extremity of the human body.

The prophylactic devices to which the present invention relates are well known, and may be broadly described as elongated elastic tubular sheaths or cylinders open at one end and closed at the other and adapted to fit closely on the body member to be protected. They are generally made of very thin pellicles or membranes of rubber or rubbery material, natural or synthetic, of the order of about 0.001" or less up to about 0.01" in thickness. While thinness has generally been a desideratum for minimizing impairment of movement, sensation and feeling of the protected body member during use, it has proven to be disadvantageous and detrimental under certain circumstances. Illustratively, an injured, burned or lacerated body extremity having exposed and/or highly sensitive nerve centers is insufficiently protected by such prophylactic devices from painful contact with foreign objects and the like. Similarly, when used on the male organ during intercourse, such extremely thin devices have often failed to permit a sufficient period of intercourse prior to spermatic emission, thereby promoting or inducing marital discord.

It is an object of this invention to provide an improved prophylactic device which will not be subject to one or more of the above disadvantages. Another object of the invention is the provision of such a device adapted for use on an injured body extremity, which device will minimize or prevent pain of contact of such extremity with foreign objects. A further object of the invention is the provision of such a device which, when used on the male organ during intercourse, will reduce the sensitivity of the organ, thereby increasing the period of active intercourse prior to spermatic emission. Other objects and advantages will appear as the description proceeds.

The attainment of the above objects is made possible by my invention which resides in the provision of a medicated prophylactic device comprising, in combination, an elastic tubular sheath having an open or proximal end and a closed or distal end, and a desensitizing composition within the sheath in contact with at least the inner surface of said closed end. This novel combination of mechanical and chemical means has been found to be peculiarly and surprisingly cooperative and effective in

enabling the attainment of the foregoing objects of this invention.

It should be understood that no claim is here made for novelty in either the elastic prophylactic device per se or the desensitizing composition per se, at least generally, but to their combination in accordance with this invention for the attainment of the desired improved and unexpected results. Accordingly, any known prophylactic device may be employed in carrying out the teachings of this invention by supplying an effective amount of a suitable desensitizing composition to the inner surface of the closed end of such device. Although maximum advantages of the invention are obtained when using the well known, ordinary, uncomplicated thin-walled rubber prophylactic consisting of a tubular sheath of suitable length with one end open and the other end closed, the invention can also be carried out using the mechanical features of the devices described, by way of example only, in U.S. Patent Nos. 2,326,159; 2,348,773; 2,358,440; 2,525,238; 2,567,926; 2,586,674; 2,703,574; 2,904,041; 3,085,570; and 3,136,417.

Similarly, the desensitizing composition employed herein may contain as the active desensitizing or anesthetic agent any known local anesthetic including benzocaine, procaine, xylocaine, hydroxy-procaine, 2-chloro-procaine, piperocaine, hexylcaine, diethoxin, tetracaine, and laro-
 caine, in free form or in the form of the acid, e.g. hydrochloride, salt, and mixtures thereof. The concentration of the active desensitizing agent in the composition will of course depend upon the potency of the agent selected, the carrier and amount thereof, and the intended use, i.e. the type and condition of the body extremity and the like. Such concentrations will usually fall within the range of about 0.5 to 25%. Any known carrier or diluent for the desensitizing agent may be employed depending upon the form of the composition desired. Thus, the agent may be mixed with talc if it is desired to apply the composition as a powder. A composition substantially solid at room temperature but melting at body temperature may be employed, in which case cocoa butter or paraffin or the like may constitute the carrier. A thin liquid composition may be desired, in which case the agent may be dissolved in a solvent therefor, or suspended or emulsified in a non-solvent diluent, which solvent or diluent may be water or an organic solvent depending upon the solubility characteristics of the agent. Olive oil or mineral oil may be used to apply the desensitizing agent in the form of an oily composition. Preferably, the composition is employed in viscous form as a jelly or cream or the like, readily attainable in known manner by use of suitable carriers and thickening agents such as sodium alginate, carboxymethylcellulose, starch glycollate, lanolin, mild soaps, and the like. The composition is also preferably readily water dispersible, including water soluble, to permit ready removal from the body member after the device is taken off the body member. A small amount of a surface active agent having wetting, emulsifying and/or dispersing properties may be included for this purpose, or the composition may be provided in the form of a readily water dispersible oil-in-water cream emulsion.

It will of course be understood that small amounts of preservatives, perfumes, antiseptics, germicides, etc. may be included in the desensitizing carrier and composition employed herein, and that said carrier and composition should be harmless and non-toxic in contact with the body member to be protected, and inert to the material from which the prophylactic device is made, whether it be a natural or synthetic rubber or latex or the like. With the teachings of this invention before him, suitable formulations may be devised by workers skilled in the

art. By way of example, and without limiting the invention thereto, the following formulation has been found to be particularly effective, parts and proportions referred to herein and the appended claims being by weight unless otherwise indicated:

	Parts
Stearic acid -----	14.5
Ethylene glycol -----	6.5
Ammonia -----	1.0
Cetyl alcohol -----	0.6
Benzocaine -----	3.5
Water -----	80.0

The above formulation yields under vigorous agitation a water dispersible oil-in-water stiff cream emulsion.

As stated, and in accordance with the invention, the desensitizing composition is applied to at least the inner surface of the closed end of the sheath. For some uses, such as for finger cots and the like, it may be preferred to coat the entire inner surface of the sheath. For use on the male organ, an amount of desensitizing composition only sufficient to coat the glans penis or head of the male organ need be applied to the inner surface at the closed end of the sheath. Generally, this involves application of about 0.2 to 5 cc., preferably about 0.5 to 2 cc., of the desensitizing composition to bottom inch or two of inner surface of the sheath (at the closed end thereof) prior to fitting or rolling the device on the body extremity.

Commonly, to permit ease of application, the prophylactic device is rolled on itself from the open end towards the closed end. According to a preferred embodiment of the invention, the device is only rolled to within 1-2 inches from the closed end, whereafter the desensitizing composition is applied to the inner surface of the remaining unrolled portion of the sheath and the device is ready for application by inserting the end of the body extremity into the coated closed end and rolling the remainder of the sheath onto the remainder of the body member, or for wrapping or packing in sealed plastic,

aluminum foil, or the like for handling, shipping and storage.

This invention has been disclosed with respect to certain preferred embodiments and various modifications and variations will become obvious to persons skilled in the art, such as use of perforated and/or thicker walls for finger cots, etc., and are to be included within the spirit and purview of this invention and application, and the scope of the appended claims.

5 I claim:

10 1. A medicated prophylactic device comprising, in combination, an elastic tubular sheet having an open proximal end and a closed distal end, and provided adjacent the inner surface of the distal end thereof with about 15 0.2 to 5 cc. of a readily water-dispersible desensitizing composition having a creamy consistency, said composition containing about 0.5 to 25% by weight of a desensitizing agent selected from the group consisting of benzocaine, procaine, xylocaine, hydroxy-procaine, 2-chloro-procaine, piperocaine, hexylcaine, tetracaine, laro- 20 caine, and diethoxin, the amount of said composition and the concentration of the desensitizing agent in said composition being effective for only temporarily desensitizing a body member inserted in said device.

25 2. A device as defined in claim 1 wherein said desensitizing agent is benzocaine.

30 3. A device as defined in claim 1 wherein said desensitizing composition is in the form of an oil-in-water emulsion.

References Cited

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