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CATHETERIZATION PACKAGE

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This invention relates to a catheterization package, including a package specially designed for cooperation with a pre-assembled catheter-tube-bag assembly contained therein.

In effecting catheterization of a patient requiring such treatment it has long been customary to take (not necessarily in this order) such separate steps as removing a sterile catheter from its envelope, applying lubricant to it, inserting it in the patient, inflating its balloon (if it is a Foley type retention catheter), connecting a drainage tube to its proximal end, connecting a drainage bag to the tube and hanging the bag on a support. The catheter, tube, bag and support have normally been supplied separately, for assembly at the time of use while observing such precautions respecting sterility as may be possible and necessary, and putting up with the inconvenience and delay because no better procedure was available.

According to the present invention, there is made available, in a sealed sterile package, a two-part container constructed so that it can be opened only in one direction and in a manner which avoids contamination of the contents, the contents including (all sterile) gloves which can be put on without destroying sterility, a protective sheet, lubricant, water (for inflation of the balloon), a syringe and, most importantly, a pre-assembled catheter-drainage tube-drip chamber-drainage bag and hanger, assembly, sterile and ready for use immediately. The container includes a tray portion having tube holding means, such as a notch, at one side so that the drainage bag may be left temporarily in the tray with the tube snapped in the notch to hold the drip chamber higher than the bag and prevent spillage or back flow when the catheter is first inserted and before the bag and its support have been installed on the bed rail, for instance. The pre-assembling and sterile packing of the catheter and its drainage system not only saves time and trouble but practically eliminates the danger of faulty connections and loss of sterility, inherent in the former system.

A practical embodiment of the invention is shown in the accompanying drawings wherein:

FIG. 1 represents a perspective view of the catheter-to-bag assembly, extended in condition for use with the bag temporarily left in the tray portion of the container from which the sleeve portion has been removed;

FIG. 2 represents a perspective view of the container, partly opened;

FIG. 3 represents a detail side elevation, from the line III—III in FIG. 2, and

FIG. 4 represents a detail vertical section, on an enlarged scale, taken on the line IV—IV of FIG. 2.

Referring to the drawings, the package includes a container having a sleeve portion **1** and a tray portion **2**. The sleeve portion is rectangular and open at both ends, but is provided at one end with a short flap **3**, integral with the top of the sleeve and extending down over about one-fourth to one-third of the height of the opening at that end. At the end of the sleeve opposite that to which the flap **3** is attached, the top is notched as shown at **4** to facilitate grasping and sliding out the tray portion.

The tray portion **2** is also rectangular, of a size to fit snugly within the sleeve portion, and open at the top but provided at one end with a short (one inch or somewhat less) inwardly directed flap **5**, integral with the end from which it extends. The flap **5** should, in any event, be

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longer than the depth of the notch **4** and long enough so that the user's hand is not likely to come in contact with the contents. In one side wall of the tray portion, near the end having the flap **5**, there is provided a slanting notch **6**, preferably narrower at its top than the diameter of the drainage tube to be used with the package and enlarging to approximately the size of said tube in its lower portion. This notch **6** may extend down from the edge of the tray portion to a depth of about one-third the depth of the tray. Since both the sleeve and the tray may conveniently be formed of carboard or the like, having a certain amount of stiffness, the notch in the tray will retain its form and size well enough to serve the temporary purpose for which it is designed.

As sold, the container described above may contain the several catheterization appliances and accessories previously listed, arranged in such order and position as to be most conveniently available when the container is opened, and particularly the pre-connected drainage system of catheter **7**, drainage tube **8**, drip chamber **9** and drainage bag **10**, suitable adapters being interposed, if necessary, between the catheter and tube and/or between the drip chamber and bag. The container and its contents are sealed, in sterile condition, within a plastic outer envelope (not shown) which is preferably not opened or removed until the contents of the package are to be used. Certain smaller items may be collected and packed in an inner plastic envelope, if desired.

When the outer envelope has been removed and discarded the container can be opened, but only in the direction illustrated in FIG. 2. The short flap **3** on one end of the sleeve makes it difficult and inconvenient to slide the tray portion out that end but still leaves the end open enough so that the tray portion can be pushed out the opposite end. While the tray is being thus pushed by the fingers of one hand (e.g., the left hand) the other hand (e.g. right) grasps the slightly projecting end of the tray, with fingers underneath and thumb on the flap **5** (taking advantage of the presence of notch **4**, if necessary) and draws it out of the sleeve, which can then be discarded. Such contents of the tray portion as the pad or sheet, gloves, cleansing solution, lubricant, syringe and water packet are removed and put to their respective intended uses, the syringe being filled with water in preparation for inflation of the catheter balloon. Upon removal of the catheter and tube from the tray, the drainage bag **10** is left in the tray and the lower end of the tube **8** is snapped into the notch **6**, as shown in FIG. 1, where it is retained during the initial stage of the catheterization including insertion of the catheter **7** and inflation of the balloon **7'** by injection of sterile water from the syringe **11**, preferably through a valve, indicated generally at **12**. After the proper installation of the drainage system the bag is intended to be removed from the tray and hung at the side of the bed on a hanger **13** of any suitable design. When the hanger is of the type shown in copending application of Disston and Pyhel, Serial No. 268,159, filed March 26, 1963, it may be pre-assembled with the bag, requiring only adjustment from flat position to hanging position.

The package, and its contents, described above provide for the first time a complete, properly organized, conveniently arranged, sterile set of equipment for catheterization, the entire drainage system being pre-assembled. The container is so constructed that it can be opened without any part of either hand of the user coming in contact with the contents. When opened, the container presents the user first with a sheet or underpad, which is placed under the patient, and then with a pair of sterile disposable gloves, designed to be put on without need for touching the outside of either one, and after that all further manipulations are effected by the sterile gloved hands working with sterile pieces of equipment. Since the drainage sys-