United States Patent

[11] 3,625,205

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[21] Appl. No. **35,848**
[22] Filed **May 8, 1970**
[45] Patented **Dec. 7, 1971**

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[54] **DISPOSABLE SURGICAL TOWEL**
5 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **128/132,** 128/296
[51] **Int. Cl.** **A61f 13/00,** A61l 15/00
[50] **Field of Search** 128/132, 296, 292

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ABSTRACT: A surgical repair drape or towel is provided comprising a generally rectangular sheet of nonwoven material provided with a strip of double-faced adhesive on one surface. The drape is folded over on its outer surface from one longitudinal edge to form a cuff and thereafter folded inwardly from both transverse edges forming end sections. Each end section overlies adjacent portions of the center section thereby completely covering the inner surface of the drape and dividing the cuff into pockets. The adhesive extends adjacent the top margin of the cuff on the inner surface of the drape. The drape is so folded that a technician may unfold and apply the drape to a patient by handling only the outer surface and without necessitating any contact with the inner surface.

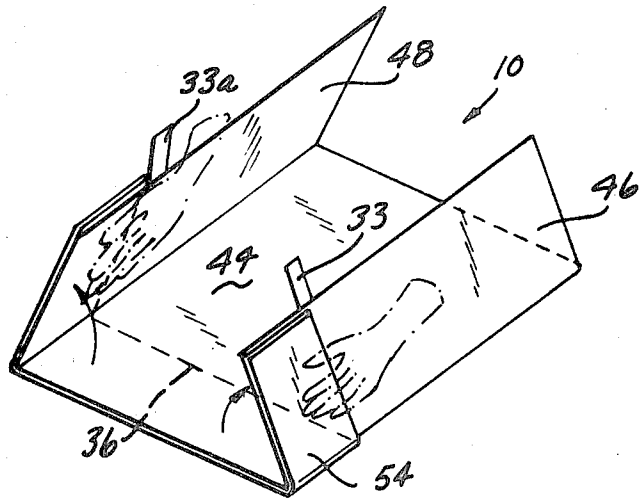


FIG. 1

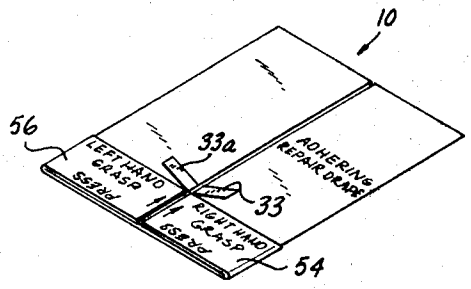


FIG. 4

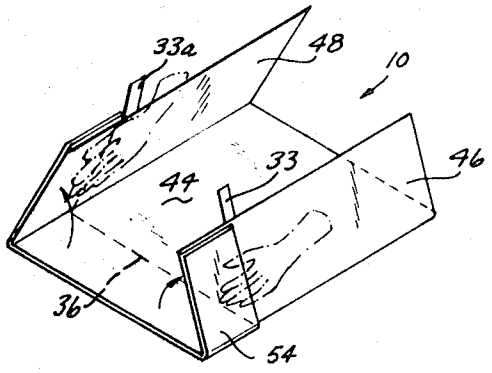


FIG. 3

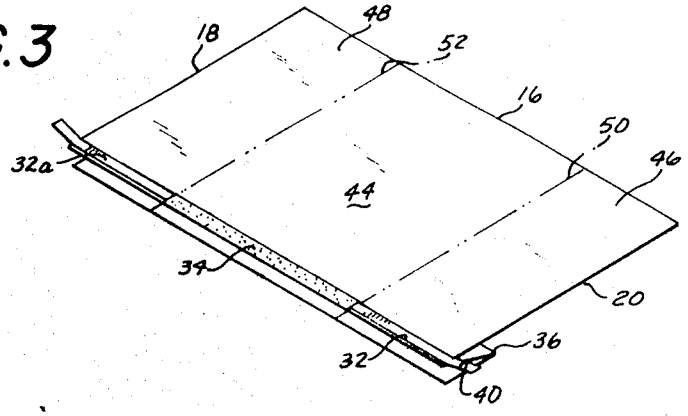


FIG. 2

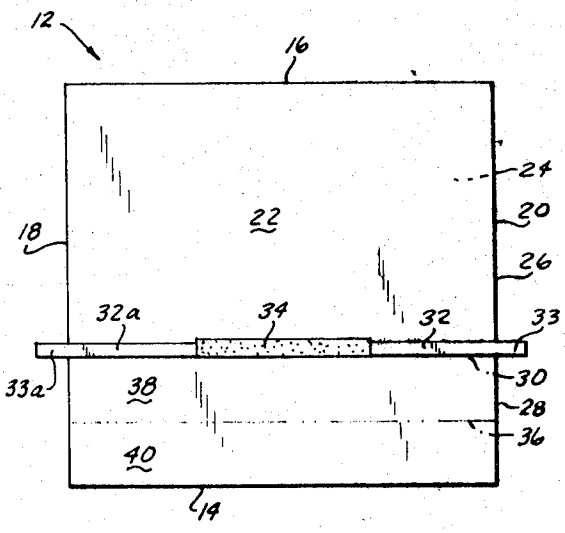
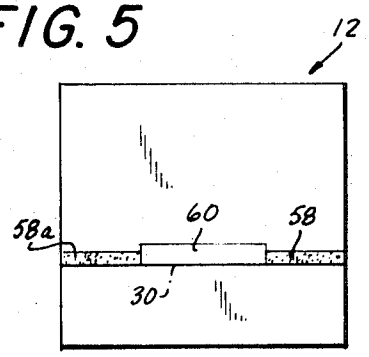


FIG. 5



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DISPOSABLE SURGICAL TOWEL

BACKGROUND OF THE INVENTION

Prior to most surgical procedures, the area of concern is blocked out with surgical towels or drapes. That is, towels are clipped directly to the patient or to the dressing covering the patient surrounding the area where the incision is to be made. These towels serve to provide a relatively sterile environment surrounding the operative area. Heretofore, such towels were commonly attached directly to the patient's body or to the surgical covering over the patient utilizing stainless steel or other metal clips to prevent slippage during surgery. The drapes utilized were conventional hospital towels or drapes formed of linen or other suitable material and require washing and sterilization prior to each use.

In a similar fashion, it is common for obstetricians to utilize repair drapes immediately following delivery as part of the afterbirth repair procedure. Such obstetrical repair drapes serve a similar function to the surgical towels described above and repair drapes heretofore available have the same shortcomings. Another shortcoming common to both surgical towels and repair drapes is that they must be fully opened in the operating room prior to application, thereby destroying, somewhat, the sterile field surrounding the incision.

In view of the above, it is the principal object of the present invention to provide a disposable surgical repair drape or towel adapted to be readily applied to a patient as part of a surgical or obstetrical procedure which does not require the utilization of auxiliary dips or other attachment means.

A further object of the present invention is to provide such a drape or towel which is prefolded in a manner designed to enable the unfolding thereof without necessitating that the technician unfolding the drape contact the surface of the drape to be brought in contact with the patient.

SUMMARY OF THE INVENTION

The above and other beneficial objects and advantages are attained in accordance with the present invention by providing a surgical repair drape or towel initially comprising a generally rectangular sheet of nonwoven, fiber material having top, bottom and opposed side edges and inner and outer surfaces. A minor portion of the sheet is first folded over the outer surface of the major portion from the bottom edge along a longitudinal line parallel to the bottom edge. The bottom edge of the drape is then brought into substantial alignment with the longitudinal fold and a second longitudinal fold is formed at the approximate midpoint of the minor portion whereby the inner surface of the minor portion is entirely covered. That is, the inner surfaces of both halves of the minor portion are brought against each other leaving only the outer surface exposed. A double-faced adhesive is applied to the inner surface of the major portion of the drape extending adjacent the longitudinal fold line. The slides of the thus-folded drape are then folded over the inner surface of the major portion of the drape along transverse fold lines and the side edges of the major portion are brought into substantially abutting relationship with each other whereby the entire inner surface of the folded drape is covered. The area between each transverse fold line and side edge of the folded over minor portion of the drape defines a hand-receiving pocket wherein every surface of the drape accessible through the pocket comprises the outer surface of the rectangular sheet.

In use, a technician slips one hand into each pocket and snaps open the folded drape exposing but not touching the inner surface of the drape and the double-faced adhesive. The inner surface of the drape and exposed adhesive is then positioned and secured on the patient as required. The cuff may be opened if necessary to accommodate larger patients.

BRIEF DESCRIPTION OF THE DRAWINGS

In the accompanying drawings:

FIG. 1 is a perspective view of a repair drape or surgical towel folded in accordance with the present invention;

FIG. 2 is a top plan view of the unfolded sheet from which the drape of FIG. 1 is formed;

FIG. 3 is a perspective view of the sheet of FIG. 2 partially folded in accordance with the present invention indicating the transverse and longitudinal folds;

FIG. 4 is a perspective view illustrating the final folding of the partially folded drape of FIG. 3 and also illustrating the method of handling the folded drape to enable its opening for application; and,

FIG. 5 is a top plan view similar to FIG. 2 wherein the position of the adhesive and adhesive-repellent zones of the sheet of FIG. 2 have been interchanged.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Reference is now made to the drawings wherein similar components bear the same reference numerals throughout the several views. The surgical repair drape or towel **10** of the present invention is illustrated in FIG. **1** in the prefolded condition in which it is supplied to hospitals and laboratories for use. The drape is formed of a nonwoven, fiber paper which is sufficiently inexpensive to render the drape disposable after each use. The drape may be formed of a moisture absorbent or repellent material as required by the particular end application. The drape is sterilized prior to shipment to the hospital and suitably packaged to maintain sterility until use.

An unfolded sheet **12** from which the drape is formed is illustrated in FIG. **2**. The unfolded drape **12** includes a bottom edge **14**, a top edge **16** and side edges **18** and **20**. The sheet further includes an inner surface **22** which eventually will be brought into contact with a patient and an outer surface **24**. The sheet **12** is further divided into a major portion **26** and a minor portion **28** along fold line **30** which extends longitudinally across the sheet between side edges **18** and **20** parallel to the top and bottom edges.

A strip of tape extends along the inner surface of major portion **26** adjacent fold line **30**. A zone **34** of double-faced contact adhesive comprises the center section of the strip. The contact adhesive zone **34** extends from the middle of the sheet toward both side edges **18** and **20** for approximately a quarter of the length of the drape in each direction so that the total length of the adhesive zone is equal to approximately one-half the total length of the drape. Adhesive-resistant zones **32** and **32***a* are provided on the ends of the strip in line with the adhesive zone **34**. Each of zones **32** and **32***a* comprises a strip of wax-coated material which may readily be separated from contact with the adhesive of zone **34** without adversely affecting the tackiness of the adhesive. A tab **33** (and **33***a*) comprising an extension of the strip extends beyond the edge of the sheet.

The unfolded sheet **12** is initially folded longitudinally along fold line **30** so that the outer surface of minor portions **28** is brought into contact with portions of the outer surface of major portion **26**. Thereafter, the minor portion **28** is folded longitudinally in half bringing the inner surfaces **38** and **40** of each half of the minor portion in surface to surface contact as illustrated in FIG. **3**. The thus partially folded drape is then further divided into a center zone **44** and end zones **46** and **48** by transverse fold lines **50** and **52**. Center zone **44** is coextensive with the adhesive strip **34** and end zones **46** and **48** are each coextensive with the adhesive-repellent strips **32** and **32***a* respectively. Referring now to FIG. **4** it is noted that the final folding steps of the drape comprise folding side edge **20** inwardly over the inner surface of the drape along transverse fold line **50** and similarly folding side edge **18** inwardly along transverse fold line **52** bringing the inner surface of end sections **46** and **48** in surface-to-surface contact with the inner surface of center section **44** and thereby totally covering the inner surface drape. At the same time, the adhesive-repellent strips **32** and **32***a* are brought to overlie portions of the adhesive zone **34** thereby forming the completely folded drape **10** of FIG. **1**. It should be noted that all the exposed surfaces of

the folded drape **10** of FIG. **1** comprise the outer surface of the unfolded sheet **12**.

FIG. **4** illustrates the method of unfolding the surgical drape of the present invention. Accordingly, the technician places his hands within the pockets **54** and **56** formed from portions of the cuff defined by minor portion **28** by folding end sections **46** and **48** over onto center section **44**. It should be appreciated that all the surfaces of both pockets **54** and **56** comprise the outer surface **24** of the unfolded drape **12**. The technician then opens the folded drape as shown in FIG. **4** by separating his hands while in the pockets. To do this, it may be necessary for him to grasp the outer surface of the drape between thumb and index finger while separating. When the end portions of the drape have thus been unfolded, the inner surface and adhesive are exposed for application to the patient. Alternately, with the primary embodiment drape, the technician may grasp tabs **33** and **33***a* and use these tabs to snap the drape open. The tabs **33** and **33***a* are then folded back as illustrated in FIG. **1**.

In FIG. **5**, an alternative embodiment of the unfolded sheet **12** is illustrated wherein two adhesive zones **58** and **58***a* are provided on the inner surface of the drape adjacent longitudinal fold line **30** and a single adhesive-repellent zone **60** is provided. In this alternate embodiment, the adhesive zones are along the outer quarters of longitudinal line **30** and the adhesive-repellent zone comprises the outer half. The tabs **33** and **33***a* of the primary embodiment are not provided. The folding of this drape is identical to that of the drape of the primary embodiment. This alternate embodiment finds particular use as an obstetrical repair drape whereas the primary embodiment is more particularly well suited as a surgical towel.

Having thus described the invention, what is claimed is:

1. A folded disposable surgical towel or repair drape comprising a generally rectangular sheet of nonwoven fiber material having inner and outer surfaces; top, bottom and opposed side edges; a longitudinal fold line parallel to the bottom edge dividing the sheet into major and minor portions, said minor portion defining a cuff on the outer surface of said major portion; a strip extending along the inner surface of said major portion from side to side said strip being divided into a center section comprising approximately one-half its length and end sections, each end section comprising approximately one-quarter the length of said strip; a double-faced contact adhesive and adhesive-repellent material disposed on adjacent sections of said strip, a pair of transverse fold lines parallel to said opposed sides, each transverse fold line extending through the border of the center section and an end section of said strip whereby the area coextensive with each of the end sections is folded on the inner surface of the area coextensive with the center section so as to completely cover the inner surface of the major portion of the folded drape.

2. The towel or drape of claim **1** wherein said strip is disposed adjacent said longitudinal fold line.

3. The towel or drape of claim **1** wherein said double-faced adhesive is disposed on the center section of said strip, said adhesive-repellent material is disposed on each of said end sections, and further comprising extensions of said strip extending beyond the side edges of said sheet.

4. The invention in accordance with claim **1** wherein said double-faced adhesive is disposed on each of said end sections and said adhesive-repellent material is disposed on said center section.

5. The invention in accordance with claim **1** further comprising a second longitudinal fold line extending across said minor portion and said minor portion is folded in half along said line with the inner surface of each half in surface-to-surface contact.

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