

[54] **SURGICAL DRAPE WITH CLOSED FENESTRATION**

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[51] Int. Cl. **A61f 13/00**

[58] Field of Search 128/132 D, 132 R, 156, 128/292

[56]

References Cited

UNITED STATES PATENTS

3,260,260	7/1966	Questel.....	128/132 D
3,667,458	6/1972	Krebs.....	128/132 D
3,741,206	6/1973	Binard et al.....	128/132 D

OTHER PUBLICATIONS

Gerspacher, et al., Modern Plastics - Vinyl Surgical

Drapes; May 1951.

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[57] **ABSTRACT**

A surgical drape includes a main drape body of suitable material, with a fenestration disposed therein. A sheet of imperforate transparent film is provided with at least one surface coated with a tacky adhesive. The film is dimensioned larger than the fenestration and is positioned with the tacky surface adhering to the drape body surrounding the fenestration, which is completely closed by the sheet. The tacky surface is exposed through the fenestration, and a release liner is peelably secured thereto. Upon removal of the release liner and draping of the patient, the exposed tacky film is immediately pressed directly onto the area to be incised, and the said area remains fully protected from contamination.

3 Claims, 3 Drawing Figures

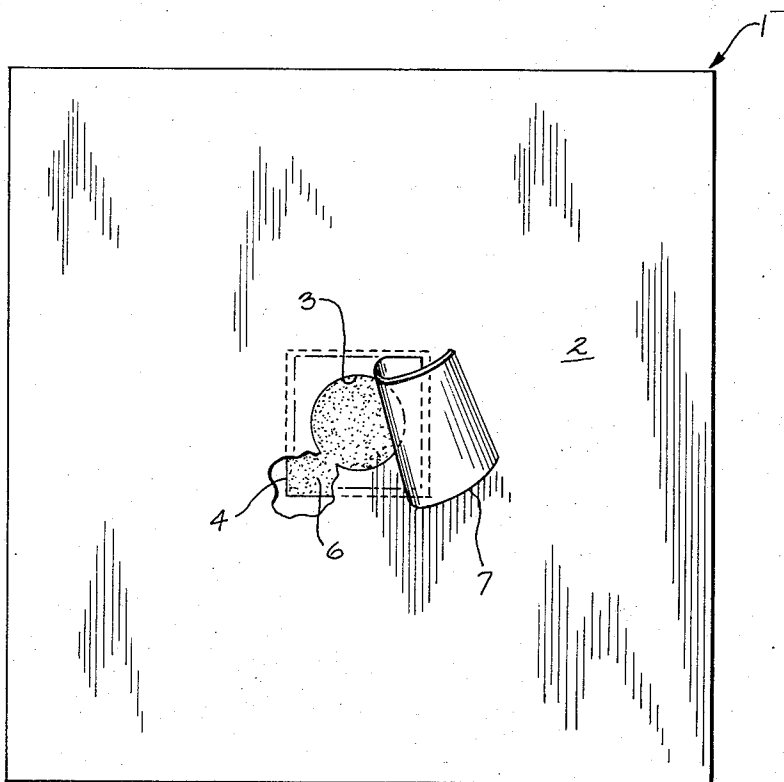


Fig. 1

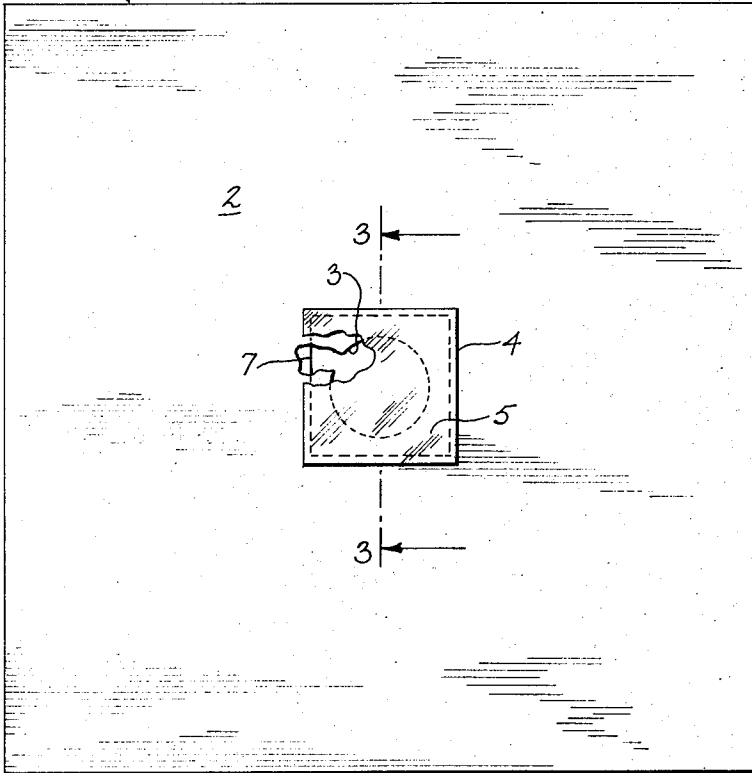


Fig. 3

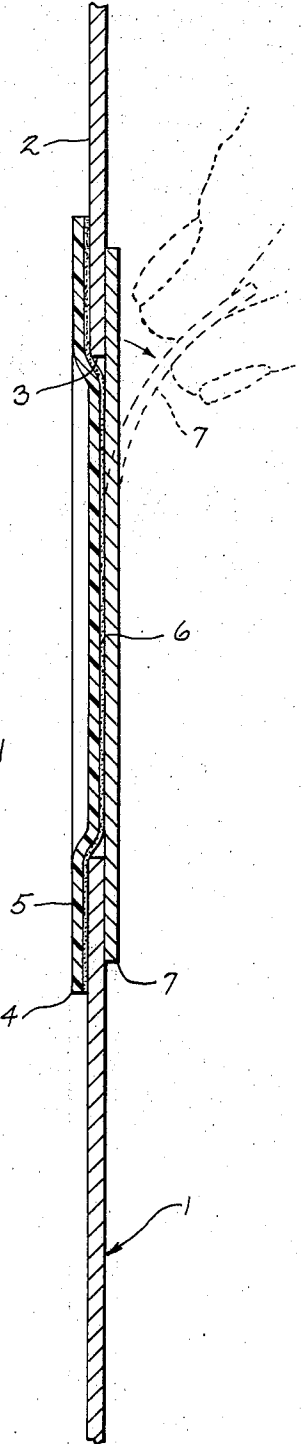
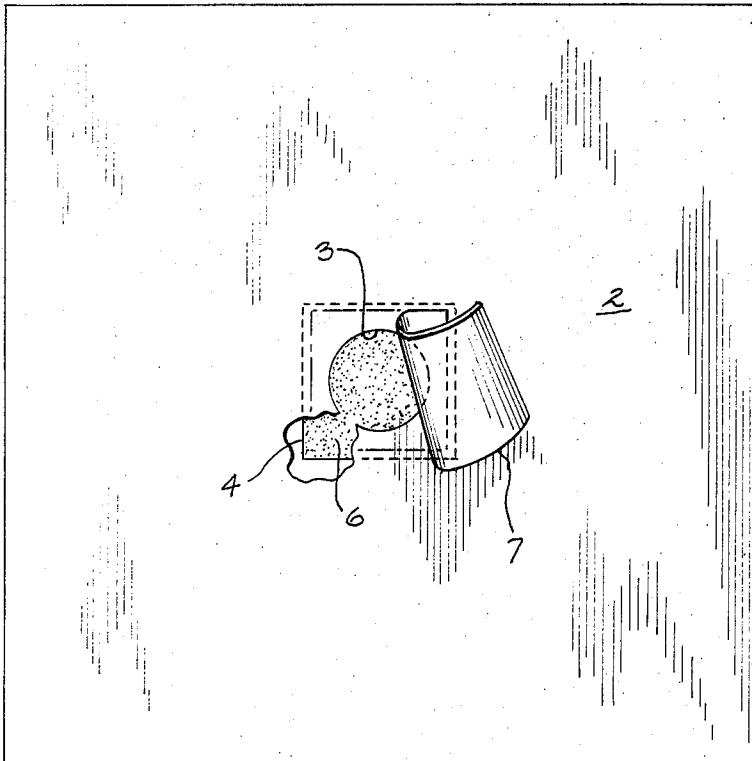


Fig. 2



SURGICAL DRAPE WITH CLOSED FENESTRATION

BACKGROUND AND SUMMARY OF THE INVENTION

This invention relates to a surgical drape with closed fenestration, and more particularly to a drape for use in various types of surgical procedures which provides a simplified structure with increased protection against infiltration of bacteria into the area of the incision both before and during surgery.

Cleanliness of the area immediately adjacent the surgical incision is of utmost importance. In accordance with accepted hospital procedure, the incision area is coated with a suitable antiseptic prior to application of a protective drape and performance of surgery to reduce the possibility of infection. However, no antiseptic is 100 percent effective and there remains some danger of infection of the area from exposure to air or contact by contaminated materials. For this reason, surgical drapes have been designed to be as sterile as possible to enhance the over-all sterility of the surgical area.

Many prior surgical drapes have been constructed in a manner so that the area to be incised is unnecessarily exposed to the air through the drape and prior to the commencement of surgery. In the event the surgeon is delayed from proceeding for any reason, the danger of infection will increase. This problem may be particularly acute in abnormal environments, such as makeshift battlefield "hospitals." An example of such a drape is shown in the U.S. patent to Krebs, No. 3,667,458, wherein a surgical drape having an open fenestration is placed over the patient, thus exposing the surgical area to the possibility of undue contamination.

In addition, some prior surgical drapes require special and time consuming procedures before the drape can be applied to the patient. Thus, in the U.S. Patent to Pereny et al., No. 3,060,932, an adhesive must be sprayed onto the patient's skin before a transparent sheet-like drape is applied thereto. Although the adhesive may be sterile, the increased movement of air adjacent the surgical area which is inherent in a spraying technique will also increase the danger of contamination. This, in effect, nullifies any advantage obtained by covering the surgical area with the sheet and requiring the surgeon to cut through it.

The present invention is directed to an improved surgical drape which eliminates the disadvantages of the aforementioned drapes, while providing a simplified structure which is easy to manipulate in the operating room.

In accordance with the invention, the surgical drape includes a main drape body of suitable material, with a surgical fenestration disposed therein. A sheet of imperforate transparent film is provided with at least one surface coated with a tacky adhesive. The film is dimensioned larger than the fenestration and is positioned with the tacky surface adhering to the drape body surrounding the fenestration, which is completely closed by the sheet. The tacky surface is exposed through the fenestration, and a release liner is peelably secured thereto. Upon removal of the release liner and draping of the patient, the exposed tacky film is immediately pressed directly onto the area to be incised, and

the said area remains fully protected from contamination.

DESCRIPTION OF THE DRAWING

The accompanying drawing illustrates the best mode presently contemplated by the inventors for carrying out the invention.

In the drawing:

FIG. 1 is a top plan view of a surgical drape constructed in accordance with the invention, and with parts broken away;

FIG. 2 is a bottom plan view of the drape, and with parts broken away; and

FIG. 3 is an enlarged section taken on line 3—3 of FIG. 1.

DESCRIPTION OF THE PREFERRED EMBODIMENT

As shown in the drawing, the surgical drape 1 of the invention comprises a sheet-like main drape body 2 of a shape and dimension determined by the type of operation to be performed. Body 2 may be made from any suitable well-known material, such as woven or pressed cellulose fibers, plastic or the like.

The drape is adapted to protectively cover at least a portion of the patient, and has means therein for permitting access by the surgeon to the area to be incised. For this purpose, a finite surgical aperture or fenestration 3 is disposed in body 2 so that it is surrounded thereby. That is, the fenestration is disposed completely inwardly of the body edges, and in any desired position. As shown in the drawing, fenestration 3 is disposed centrally of the body.

After the skin of the patient is suitably treated with an antiseptic, it is desired to firmly secure the drape to the patient in a way which nevertheless permits lifting of the drape edges by a nurse, if necessary. Furthermore, the manner of securement should require a minimum of manipulative procedures, and the area to be incised should be fully protected both before and during the operation.

For this purpose, means are provided to secure the drape to the patient's body exclusively throughout the full area of fenestration 3, said means also comprising a complete closure for the fenestration. As shown, a thin film-like imperforate preferably transparent plastic sheet 4 is provided which is normally smooth on its upper side 5 and which has a lower side 6 having a tacky surface throughout its extent. This tacky quality of side 6 may be created by coating the entire side with a suitable pressure sensitive sterile adhesive of a type well known in the art.

As shown, sheet 4 is larger than fenestration 3 and the edge portion thereof is applied to the upper side of drape body 2 and extends outwardly beyond the finite edge of the fenestration so that the pressure sensitive adhesive firmly adheres in a continuous peripheral bond to the body portion which surrounds the periphery of the fenestration. In addition, sheet 4 extends completely across fenestration 3 to provide an imperforate closure therefor. As best shown in FIG. 2, tacky side 6 is exposed downwardly through the fenestration on the lower or patient side of the drape.

As a protective measure, and to assist in handling and bulk shipping of the drape, a removable release line 7 is applied to the exposed lower tacky side 6, and prefer-

ably extends outwardly beyond the periphery of the fenestration.

The entire product is treated at the time of manufacture so that all surfaces are sterile, as by heating in a steam or hot air chamber. This cleanliness is maintained during subsequent shipment and storage by suitable packaging.

At the point of use, the patient's skin is antiseptically treated, release liner 7 is quickly peeled from the drape, and sheet side 6 is pressed down so that its tacky surface firmly adheres to the skin at the planned incision line as well as in the surrounding area limited by the fenestration periphery. No additional treatment of the skin, such as spraying with adhesive, is necessary. In addition, the planned incision line and limited surrounding area will remain completely sealed and protected by the fenestration closure against contamination by bacteria in the air or the like. The seal will remain during the entire period prior to the operation, and until the surgeon penetrates through sheet 4 when making the incision. During the surgery, the remaining portions of sheet 4 surrounding the incision line can be left in adhering relationship to the patient's skin, or can be peeled back to the fenestration periphery if desired.

Various modes of carrying out the invention are contemplated as being within the scope of the following claims particularly pointing out and distinctly claiming the subject matter which is regarded as the invention.

We claim:

1. A surgical drape comprising, in combination:

- a. a sheet-like drape body for protectively covering a patient,
- b. said body having a finite surgical fenestration therein for access through said body by a surgeon to the area of the patient's skin to be incised,
- c. the periphery of said fenestration being disposed inwardly from the edges of said drape body,
- d. transparent penetrable closure means for said fenestration for protecting the said area to be incised from contamination prior to surgery,
- e. and sterile means forming part of said closure means for securing said drape to the skin of the patient completely and exclusively within the area defined by the fenestration periphery.

2. A surgical drape comprising, in combination:

- a. a sheet-like drape body for protectively covering a patient,

- b. said body having a finite surgical fenestration therein for access through said body by a surgeon to the area of the patient's skin to be incised,
- c. the periphery of said fenestration being disposed inwardly from the edges of said drape body,
- d. transparent penetrable closure means for said fenestration for protecting the said area to be incised from contamination prior to surgery, said closure means comprising a film-like imperforate sheet of larger dimension than said fenestration and completely closing the latter,
- e. means securing the edge portion of said sheet in a continuous peripheral bond to the area of said drape body surrounding said fenestration,
- f. and sterile adhesive means on said sheet for securing said drape to the skin of the patient completely and exclusively within the area defined by the fenestration periphery.

3. A surgical drape comprising, in combination:

- a. a sheet-like drape body for protectively covering a patient,
- b. said body having a finite surgical fenestration therein for access through said body by a surgeon to the area of the patient's skin to be incised,
- c. the periphery of said fenestration being disposed inwardly from the edges of said drape body,
- d. penetrable closure means for said fenestration for protecting the said area to be incised from contamination prior to surgery, said closure means comprising a film-like imperforate transparent sheet of larger dimension than said fenestration and completely closing the latter,
- e. at least one side of said sheet having a pressure-sensitized sterile adhesive thereon,
- f. the edge portion of the pressure-sensitized side of said sheet extending outwardly beyond the finite edge of the fenestration and being secured in a continuous peripheral bond to the area of the upper side of said drape body surrounding said fenestration,
- g. and the central portion of the said pressure-sensitized side of said sheet being exposed downwardly through said fenestration and forming means for securing said drape to the skin of the patient completely and exclusively within the area defined by the fenestration periphery.

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