

into the bag, and means for supplying the bag continuously with filtered air to inflate the bag to maintain a work space between the drape and the rigid, optically transparent, material in the upper side and exhaust means through which the filtered air can flow out of the bag continuously so that the air is changed continuously.

14. An isolator for reducing the chances of disease organisms entering the surgical wound of a patient during a surgical procedure, said isolator comprising an inflatable bag for positioning over the area of the patient when the surgery is to be performed, said bag having an upper side, a portion of which is of relatively stiff, optically transparent, material through which the surgeon can view the area of the surgery, a plurality of open-ended sleeves attached to the bag through which the surgeon can extend his hands into the bag, a blower, a sterile air duct through which air is supplied to the interior of the bag by the blower, air exhaust means through which air can flow from the bag, and a sterile filter located in the air duct downstream from the end of the duct to be connected to the blower so that the connection between the sterile air duct and the blower is made upstream from the sterile filter to allow any non-sterile particles or disease organisms that are introduced into the air duct when the connection is made or in the air supplied by the blower to be trapped by the filter before they enter the bag.

15. An isolator for reducing the chances of disease organisms entering the surgical wound of a patient during surgical procedure, said isolator comprising an inflatable bag of flexible material, a blower for supplying an air to the bag to inflate the bag, exhaust means through which air can escape from the bag to allow the air supplied by the blower to flow through the bag, means for filtering the air entering the bag, and a plurality of open-ended sleeves attached to the bag, through which the hands and arms of the surgeon and his assistants can extend into the work space, each sleeve having elastic material encircling the sleeve adjacent its outer ends to hold the sleeve tight around an arm extending through the sleeve to reduce the flow of air from the bag between the air and the sleeve and to intussuscept as required to allow the arm to which it is attached to move freely into and out of the bag.

16. An isolator for reducing the chances of disease organisms entering the surgical wound in a body member of a patient during a surgical procedure said isolator comprising an inflatable bag having side and end walls of flexible material, a lower side of flexible material, a portion of which is of a surgical drape material in which an incision can be made to allow a body member upon which a surgical procedure is to be performed to be pulled into the work space through the incision in the drape that is smaller than the member to cause the stretched elastic material to tightly surround the member and protect the body member from the environment outside the work space, and said bag having an upper side, a portion of which is of relatively stiff, optically transparent, material through which the surgeon can

view the area of the surgery, a plurality of open-ended sleeves attached to the bag, through which the hands and arms of the surgeon and his assistants can extend into the work space, each sleeve having elastic material encircling the sleeve adjacent its outer ends to hold the sleeve tight around an arm extending through the sleeve to reduce the flow of air from the bag between the arm and the sleeve and to cause the sleeve to intussuscept as required to allow the arm to which it is attached to move freely into and out of the bag, exhaust means through which air can escape from the bag, and means for supplying the bag continuously with a sufficient volume of filtered air to inflate the bag to maintain a work space between the drape and the rigid, optically transparent, material in the upper side, said air supply means including a sterile air duct through which air is supplied to the interior of the bag by a blower and a sterile filter located in the air duct downstream from the end of the duct to be connected to a blower so that the connection between the sterile air duct and a blower is made upstream from the sterile filter to allow any non-sterile particles or disease organisms that are introduced into the air duct when the connection is made or in the air supplied by the blower to be trapped by the filter before they enter the bag.

17. An isolator for reducing the chances of airborne contaminants entering the surgical wound of a patient during a surgical procedure comprising an inflatable bag of flexible, impervious, material with a window in the upper side of relatively stiff, optically transparent, material through which the surgeon can view the area of the surgery, said bag being elongated having end and side walls and an inlet in one end wall, an inlet blower means for supplying the bag continuously through the inlet, means for filtering the air from the blower before the air enters the bag, and exhaust means in the opposite end wall to cause the air to flow through the bag from one end to the other with a pressure drop sufficient to inflate the bag.

18. A method of providing a continuously changing contamination-free atmosphere in which a surgical procedure can be performed by a surgeon comprising the steps of placing on the patient an inflatable bag having a bottom, side walls, and end walls of flexible, impervious, material and an upper side of relatively stiff, optically transparent material forming a window through which the inside of the bag can be viewed by the surgeon, extending the arms of the surgeon into the bag through open-ended sleeve attached to the bag and performing the surgery, continuously supplying the bag from one end with a sufficient volume of air to maintain the pressure in the bag above atmospheric and to change the air in the bag at least two times per minute, filtering the air before the air enters the bag, exhausting the air from the bag through the opposite end from where the air enters the bag, and restricting the flow of air out of the bag sufficiently to maintain sufficient pressure in the bag to keep it inflated.

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