



Methods for Organizing the Disinfection of One or More Items Contaminated with Biological Agents (VA Reference No. 12-235)

The developed method could alleviate disinfection problems and may radically and systematically reduce the contamination on equipment or supplies and in patient hospital rooms.

Technology

Disinfection Method

Inventors

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Key Features

- Facilitate a way to clean Reusable Medical Equipment and rooms more thoroughly and efficiently
- Eliminates need to transport equipment to a designated space
- Assist in keeping proper logs for regulatory authorities
- Easy for staff to identify clean equipment without confusion

Stage of Development

Reduced to practice

Keywords

Disinfection
Ultraviolet light
Hydrogen Peroxide System
RFID tags
Reusable Medical Equipment

Patent Status

Patent Application pending

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Technology

The process of disinfecting reusable medical equipment in hospitals generally involves wiping down the equipment for surface contaminants and then transporting the equipment to a disinfecting room where it is temporarily stored and then disinfected and sterilized. Once disinfected and sterilized, the equipment is transported to the appropriate floor or unit of the hospital and stored in a "clean equipment room" for reuse. This process creates the possibility for errors in using equipment that has not been properly disinfected and sterilized. For example, the hospital staff may 1) forget to pre-clean or wipe down equipment, 2) place the equipment in the wrong room prior to disinfecting, or 3) not label the equipment as clean or dirty, thus leading to inadvertently using dirty equipment. There are similar problems with confirmation sterilization of hospital spaces.

To alleviate errors, the Department of Veterans Affairs (VA) has developed a method for organizing the disinfection of items and spaces contaminated with biological agents. The method involves attaching a radio frequency ID (RFID) tag to an item to be disinfected, exposing the item to a disinfecting means for a period sufficient to disinfect the item, and obtaining a signal from the tagged item when disinfection is complete. In addition to reusable medical equipment, the method could also be used for rooms or other spaces within the hospital. The method could be used with multiple disinfection means including ultraviolet light and hydrogen peroxide.

Opportunity

The Methods for Organizing the Disinfection of One or More Items Contaminated with Biological Agents would facilitate a more thorough and efficient cleaning method, removing the need to transport equipment to alternate locations. The methods for organizing the disinfection of one or more items contaminated with biological agents could potentially revolutionize reusable medical equipment disinfection market. The estimated cost of hospital infections across the country is approximately \$16.6 billion, with an incidence of hospital acquired infections increasing hospital care costs for patient by \$10,375. The global market for disinfecting equipment (using UV light) was \$880 million in 2010, and is anticipated to reach \$1.6 billion by 2016.

Competitive Advantage

- Facilitates a way to clean Reusable Medical Equipment and spaces more thoroughly and efficiently
- Eliminates need to transport equipment to a designated space
- Assists in keeping proper logs for regulatory authorities
- Easy for staff to identify clean equipment without confusion

Status

The Department of Veterans Affairs is looking for a partner for further development and commercialization of this technology through a license and the VA inventors are available to collaborate with interested companies through a Cooperative Research and Development Agreement (CRADA).

