



Infection Control System for Sterilization of Catheter Access Points with Ultraviolet (UV) Light

Technology No. z09164

IP Status: Issued US Patent; **Application #:** 13/319,875

Medical Device for Sterilization of Access Points Using Ultraviolet (UV) Light

Researchers at the University of Minnesota have created an infection control system to destroy bacteria and microbes with ultraviolet (UV) light to sterilize catheter access points. This system functions as both a dilator at the access site to allow delivery of treatment, and as a sterilant, periodically transmitting UV light into the catheter body and adjacent tissues. UV light sterilizes materials by using a wavelength of light that breaks the molecular bonds in microbe DNA. This either destroys them, rendering them harmless, or prohibits their growth and reproduction, taking away their ability to cause infection.

Infection of Catheter Access Points by Microbes and Bacteria

Central venous access using a catheter or central line is a common medical practice used in hospitals to deliver drugs and treatment. One of the greatest risks of using a central line is severe infection of the access site, caused by microbes such as bacteria. Infections in patients undergoing surgery can lead to major complications and potentially death. Post-operative infections also lead to longer hospital stays and are costly for both patients and health care providers. Because of this, it is imperative for hospital staff and physicians to keep the access site sterilized. This UV light medical device enables repeated, intermittent, and on-demand sterilization of the access site to prevent infections. This device has applications for preventing infection in any surgery or procedure involving catheters, which have become increasingly popular with the trend towards less invasive procedures.

USING UV LIGHT TO STERILIZE CENTRAL VENOUS ACCESS POINTS FROM MICROBES AND BACTERIA

- Prevents dangerous infections due to bacteria and other microorganisms by destroying them with UV light
- Effective sterilization of central venous and other access points
- Allows repeated, intermittent, on-demand sterilization of catheter and skin with UV light
- Infection control device is designed for use with any catheter set
- Also functions to replace dilators used to open incisions to fit catheters
- Cost-effectively addresses high-impact, high-cost issue

Patent Information:

- US Patent Pending [20120161032](#)
- US Patent [8,933,416](#)

Phase of Development Conceptual drawings are complete. We are now seeking support for further development and testing of this novel addition to the hospital infection control armamentarium.

Researchers: Joseph Hale, Earl E. Bakken Medical Devices Center Innovation Fellow,
Nikhil Murdeshwar Earl E. Bakken Medical Devices Center Innovation Fellow,
Bryan Rolfes Earl E. Bakken Medical Devices Center

<https://license.umn.edu/product/infection-control-system-for-sterilization-of-catheter-access-points-with-ultraviolet-uv-light>