

# AsepticSure: The New Standard in Room Disinfection



The Experts in Sanitation Solutions

Subsidiary of Sani Marc Group



**WOOD WYANT**

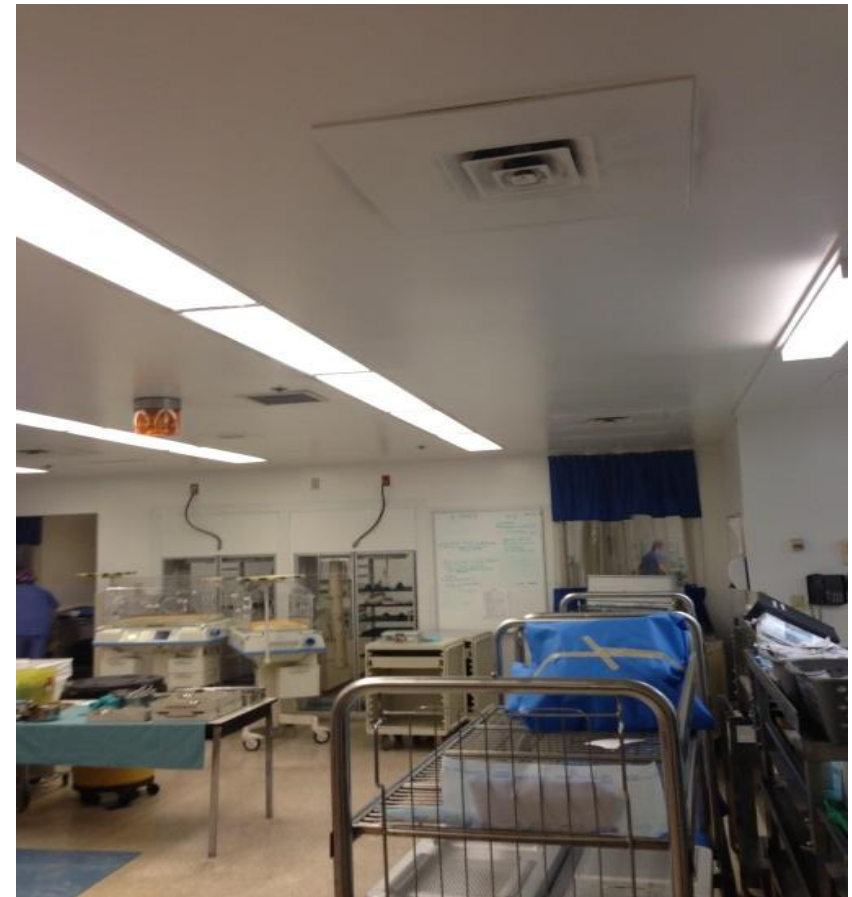
# Outline Of Presentation

- The need for new solutions
- Current infection rate and costs of HAIs
- Role of the Environment in the spread of HAIs
- Limitations of Manual Cleaning
- Automated Room Disinfection systems positive impacts
- AsepticSure technology for no touch automated whole room disinfection



# Can We Please Send The Room To The Reprocessing Department ????

- High level of disinfection of all surfaces
- Just as if you autoclaved the room!
- Room reset to “zero bugs!”
  - 6 log reduction 99.9999



# Who Invented AsepticSure?

- Developed at Queen's University Innovation Park by 2 highly respected Canadian Infectious disease experts.
  - Dr. Dick Zoutman, MD, FRCPC
  - Dr. Michael Shannon, MD, MSc
- Developed as a new technology to significantly reduce the impacts of HAI issues on our healthcare system.
- Brought to market by Medizone International Inc.
- Recipient of the prestigious Innovation Academy Award from the International Congress of Prevention and Infection Control (ICPIC) Conference in Geneva in July, 2011.



# Why We Need New Options

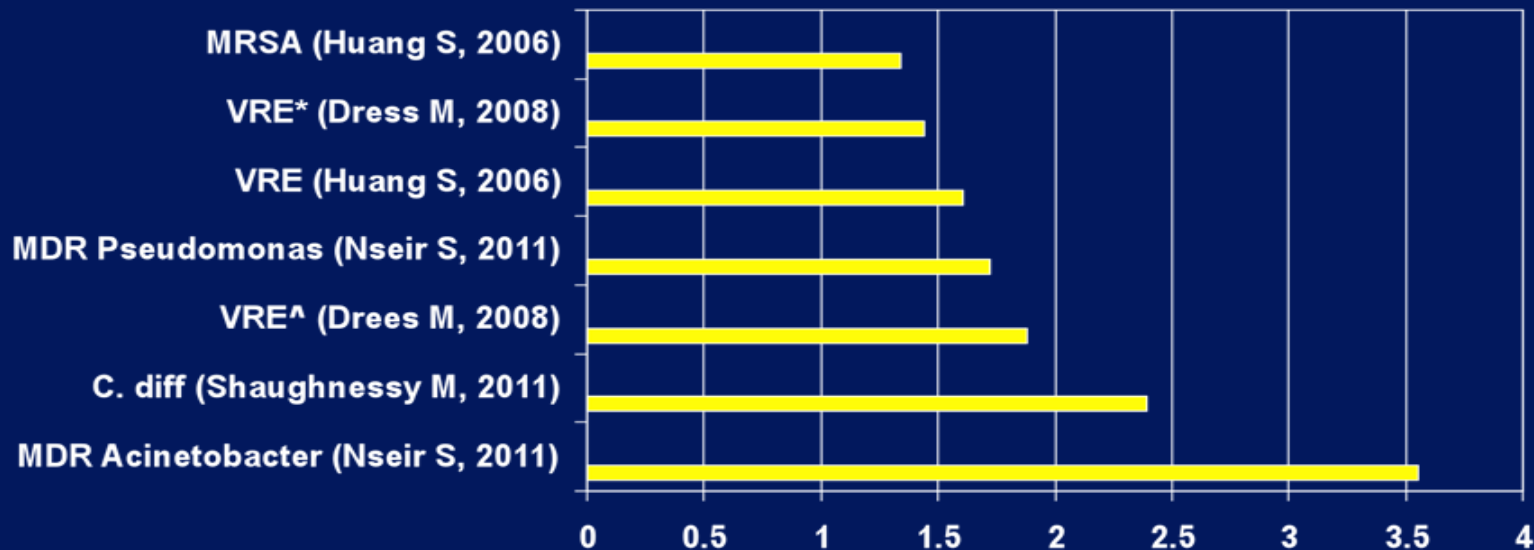
## Current infection rate and costs for HAIs



- HAIs 4<sup>th</sup> leading cause of death in Canada. More than 200,000 patients impacted.
- Annual cost to Canadian Health System an estimated to be over \$2 Billion dollars.
- Estimated range of Hospital Cost of HAIs between \$2,265 - \$22,400 per patient depending on which microbe and the site of the infection.

# Role Of The Environment In The Spread Of HAIs

## RELATIVE RISK OF PATHOGEN ACQUISITION IF PRIOR ROOM OCCUPANT INFECTED



\* Prior room occupant infected; ^Any room occupant in prior 2 weeks infected

# AsepticSure: The New Standard In Room Disinfection

- Improves whole room treatment abilities of Hydrogen Peroxide Vapour (HPV) Systems
- Combines low levels of Ozone with very low levels HPV
  - Faster and higher level of disinfection of bacteria
  - Including C diff spores on hard and soft surfaces
- Synergy of ozone and hydrogen peroxide (Trioxidane)
- Surfaces not damaged - lower concentrations of Hydrogen Peroxide eliminate negative interactions with surfaces
  - **From 35% to 1%!**



## How Does It Work?

- Room is pre-cleaned as per established practice.
- First clean is manual focused on gross soil removal
- HVAC turned off
- Room prep is performed
- Equipment is placed in room





# How Does It Work?

- Combination of molecules ( $O_3$  and  $H_2O_2$ ) produces very unique free radicals with **higher oxidation potential** than Ozone or Hydrogen-Peroxide alone
- Hospital spaces and other public facilities can effectively and reliably be disinfected to a sterilization standard
  - 6 log reduction
  - 60-90 minute cycle. **“Room reset to zero”**
- Harmless to the environment, electronic equipment, paint and treatment surfaces





## How Does It Work?

- Delivers a totally consistent dependable and truly automated 6 log reduction with every system run
- Effective in the presence of biofilm
- No issues with shadow or placement proximity to the surfaces that are going to be disinfected
- Peer reviewed articles validate the claims made for the system

# The Cycle

- Operated via a laptop and wireless link that follows the system through its full cycle.
- As the system starts, it ensures that the room is at optimal conditions
- Generates Ozone at 80ppm and 1% hydrogen peroxide which combine to create Trioxidane, a potent free radical gas.
- Provides a data base that clearly records all parameters confirming that the run conformed to an established protocol.
- This web-based monitoring system enables:
  - Real-time technical support for unit operators
  - More effective management of room disinfection
  - Quality assurance audit records

**A new standard in quality assurance for room cleaning and disinfection.**

# What Does It Kill At The 6 Log Level ?

- Clostridium difficile spores
- Escherichia coli (E.coli)
- Pseudomonas aeruginosa
- Methciliin-resistant Staphylococcus aureus MRSA
- Vancomycin -resistant Enterococcus (VRE)
- Salmonella
- Listeria
- Bacillus atropheus
- Bacillus subtilis
- Mycobacterium terrae (surrogate for Mycobacterium tuberculosis)
- Klebsiella pneumonia



# Where Does The Trioxidane Go?

- As part of the “destruct cycle” the air scrubbers activate automatically to remove the gas from the room.
- Following the treatment phase the room is returned to its original state, with **O<sub>3</sub>** and **H<sub>2</sub>O<sub>2</sub>** levels below Health Canada safety standards
- This is the last step in the process.
- The laptop and in-room sensors will clearly indicate when the room is safe to enter.



# Lasting Benefits

- Testing has shown that a room treated with an AsepticSure system has **0%** regrowth.
- **0%** regrowth is rarely achieved using conventional approaches to cleaning. Patient rooms often become reservoirs for cross contamination and infection
- Does not leave a residue or film
  - Not damaging to electronics
  - Not damaging to environmental surfaces like mattresses.



# Bed Availability

- The cycle time is the same as a discharge isolation cleaning
- Achieves a much higher level of disinfection 100% of the time
- Enables the EVS and IPAC teams to target rooms and units that have become reservoirs for the spread of infectious agents
- Lower HAI rates = More beds available







# In summary AspeticSure Whole Room Disinfection system

- Resets to zero
- New standard for automated complete elimination of pathogens
- Patient room and all of its contents completely safe from infection
- Opportunity to reduce the number of new HAI that have originated from a hot zone.
- Lasting benefits are clear in terms of breaking the cycle of infection
- Rooms maintain a pathogen free status for a prolonged period of time  
This translates to improved patient safety and outcomes
- One element in a total multi disciplinary approach



***Thank You!***