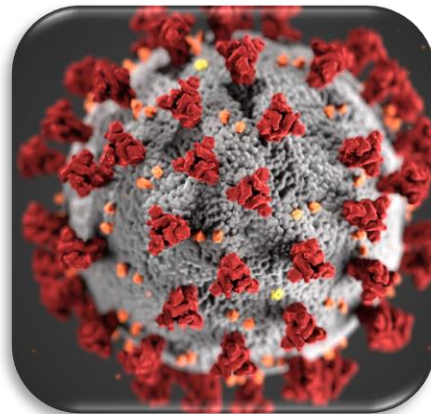


Aerosol Transmission of Pathogens: The Problem and the Solutions



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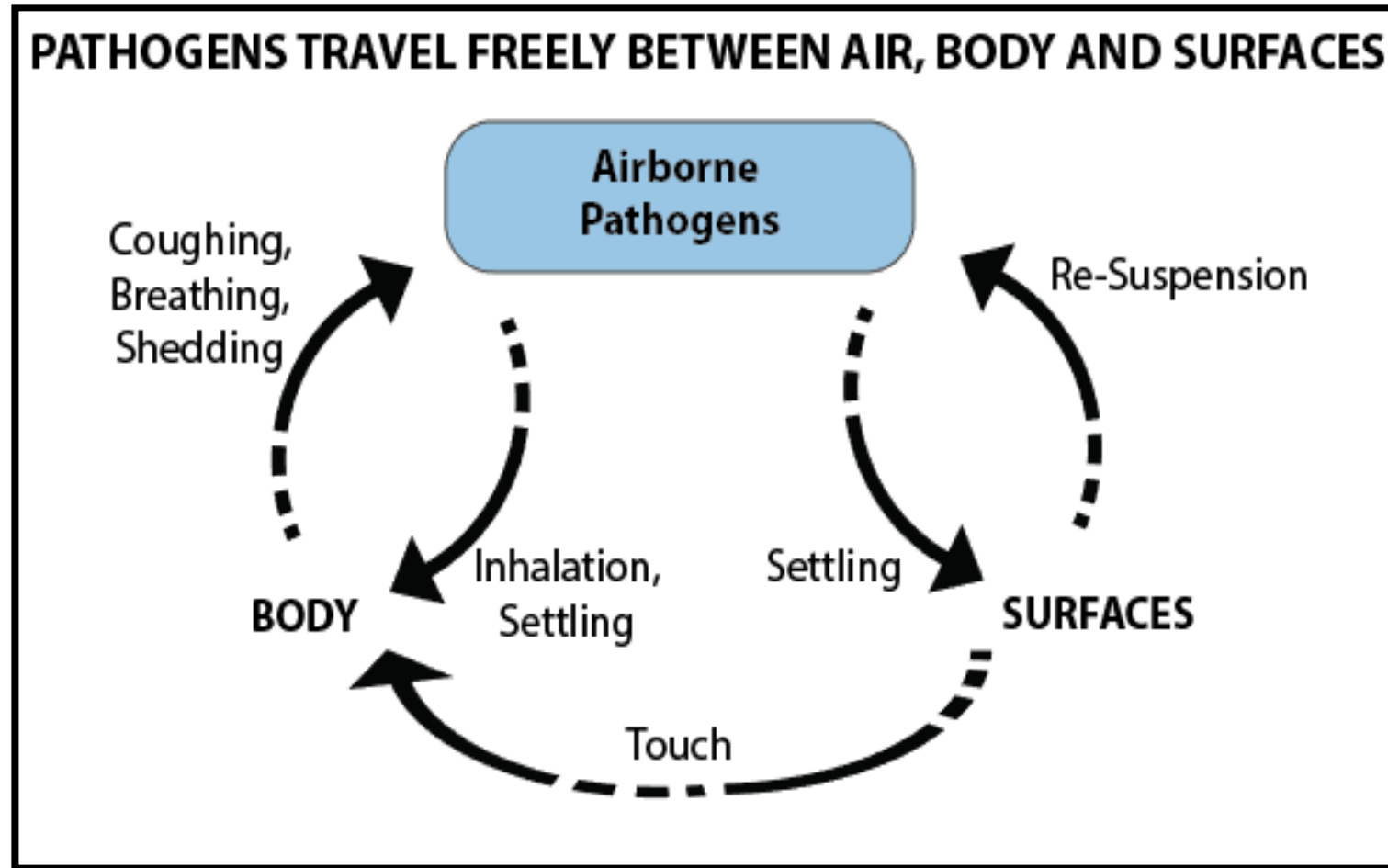
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Disclosures: Speaker provides clinical consulting services to Aerobiotix.

The Problem – Airborne Pathogens



The Problem - Small Particle Aerosol Transmission (SPAT)

- Viruses can remain suspended in bioaerosols and travel distances > 3-6 feet
- Exhalation, loud talking, sneezing, singing and coughing – individuals cough/sneeze different amounts of aerosols
- Microdroplets remain aloft in air at distances beyond 3-6 feet from an infected individual – can stay suspended up to 3 hours
- Microdroplets maintain their infectivity in smaller droplets



The Problem - Transiently Airborne Bacteria Including MRSA and *C diff*

MRSA can be transmitted via respiratory aerosols but more often is present on skin scales, which are continually shed from the body.

Bed making can transiently aerosolize pathogen laden skin scales.

Bacteria laden skin scales are also commonly found in dusty, inaccessible high surfaces. After becoming transiently airborne

Skin scales may fall to the floor within 1–2 meters if larger, or if smaller can potentially travel the length of a nursing unit.

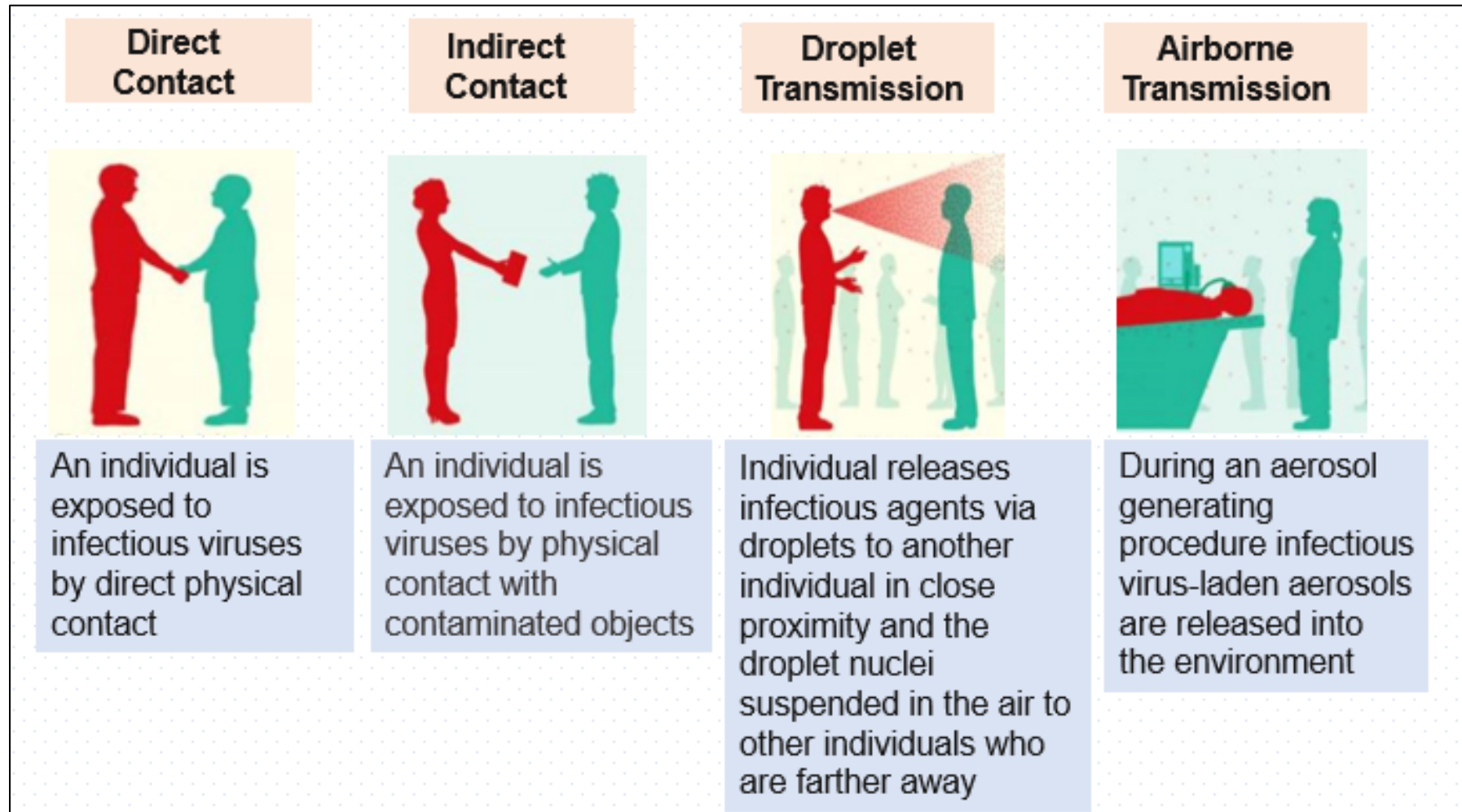
When transiently airborne these pathogens can potentially contaminate intravenous lines, drains and unhealed incisions.

Clostridioides difficile (*C diff*) spores can also be transmitted via transient aerosolization, such as during toilet flushing.

They can then be further transmitted by hands or equipment.

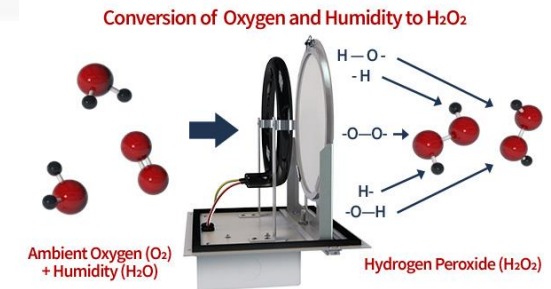


The Problem – Airborne Viruses Including SARS-CoV-2



The Solution: Innovative Air Purification/Disinfection

- Air cleaners and HVAC filters remove pollutants or contaminants out of the air that passes through them
- Air cleaning and filtration can help reduce airborne contaminants, including particles containing viruses, bacteria and spores
- Portable air cleaners (also known as air purifiers) may be particularly helpful when additional ventilation with outdoor air is not possible without compromising indoor comfort (temperature or humidity), or when outdoor air pollution is high.
- When used along with other best practices recommended by CDC and others, filtration can be **part of an engineering plan** to reduce the potential for airborne transmission of COVID-19 indoors.



High Efficiency Particle Air (HEPA) Filtration with UV-C

The Solution for Healthcare: Illuvia a Clinically-Proven Non-Turbulent Ultra Clean Air System

- Novel technology combining UV-C, HEPA filtration and contamination collection cartridge technology to eliminate particulates and microorganisms;
- Creates a “clean donut” in the operating room;
- Reported in peer-reviewed studies to reduce bacteria levels in operating room air by 50-60%;
- Significantly reduced overall rate of PJI in a study of >500 arthroplasty procedures (p<0.042).



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The Solution for Healthcare: Iluvia a Clinically-Proven Non-Turbulent Ultra Clean Air System

- To reduce the risk of airborne SARS-CoV-2 transmission through bioaerosols
- Improvements in room ventilation are advocated by CDC and WHO, including supplemental air filtration and disinfection.
- In a recent study testing the efficacy of UV-C + HEPA air decontamination, 100% of SARS-CoV-2 virus was eliminated during 15 trials when compared to 40% reduction by two control devices (one using UV only and one using HEPA).



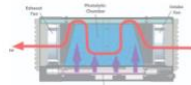
Mobile device
small footprint

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The Solution for Classrooms, Offices, Small Restaurants or businesses (<400 square feet): GermZone 100

AIR PURIFICATION FOR SCHOOLS,
UNIVERSITIES, AND LEARNING CENTERS

GermZone® 100



Air Disinfection Unit with Ultraviolet Germicidal Irradiation (UVGI) Technology

- Medical Grade Technology designed for Upper-Room installation where most in-room viruses and bacteria live
- Made in the USA – All Steel construction
- Germicidal UV reaction chamber to inactivate viruses and bacteria
- For rooms up to 400 square feet
- Sound level 55 dB
- State of the art photolytic technology with patented germicidal irradiation system
- Safe for use in occupied areas – no unsafe UVC emission
- Flexible intake for source capturing during any procedure
- Small and portable, mounts to upper wall

<https://airforschools.com/germzone-100>

The Solution for Classrooms and Offices (> 400 square feet): AeroCure 200

AeroCure 200

In Classroom / Office HEPA and Ultraviolet Air Treatment

- Portable Air Purification System
- HEPA and Ultraviolet light eliminates >99.9% of viruses, bacteria, and spores
- Shielded Ultraviolet light cleaning system – safe to use in occupied areas
- Supplements HVAC systems and limited ventilation areas
- Adding an extra level of protection when it matters most – for your staff and students
- Tested against SARS-CoV-2 aerosols ([Study Results](#))
- Easily changeable pre-filter cartridge
- Quiet, continuous operation for learning environments

<https://airforschools.com/aerocure-200/>

