

Can We Measure the Activity and Benefit of AMCs ?

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Overview

- What are the challenges?
 - Technical.
 - Regulatory.
- What are the barriers?
- What are the negative factors?
- What benefit do we need?
- How do we measure it?



Challenges

- What is the target?
 - How many organisms are on the surfaces?
 - Which ones?
- How fast should the effects be?
- What scale?
- All surfaces or specific ones?
 - Are there priorities?



Challenges

- How does the environment affect survival and performance?
 - Can we model this?
- How do organisms get on the surfaces?
 - Liquids and soiling.
 - Aerosols and dust
 - Human / surface interaction.
 - Hand contact.





Use of a verbal electronic audio reminder with a patient hand hygiene bundle to increase independent patient hand hygiene practices of older adults in an acute care setting

Shanina C. Knighton, Mary Dolansky, Curtis Donskey,
Camille Warner, Herleen Rai, Patricia A. Higgins
American Journal of Infection Control, Vol. 46, Issue 6

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Googling your hand hygiene data: Using Google Forms, Google Sheets, and R to collect and automate analysis of hand hygiene compliance monitoring

Timothy L. Wiemken, Stephen P. Furmanek, William A.
Mattingly, Janet Haas, Julio A. Ramirez, Ruth M. Carrico
American Journal of Infection Control, Vol. 46, Issue 6

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Asymmetric transfer efficiencies between fomites and fingers: Impact on model parameterization

Christine Greene, Nancy Hernandez Ceron, Marisa C.
Eisenberg, James Koopman, Jesse D. Miller, Chuanwu Xi,
Joseph N.S. Eisenberg

American Journal of Infection Control, Vol. 46, Issue 6

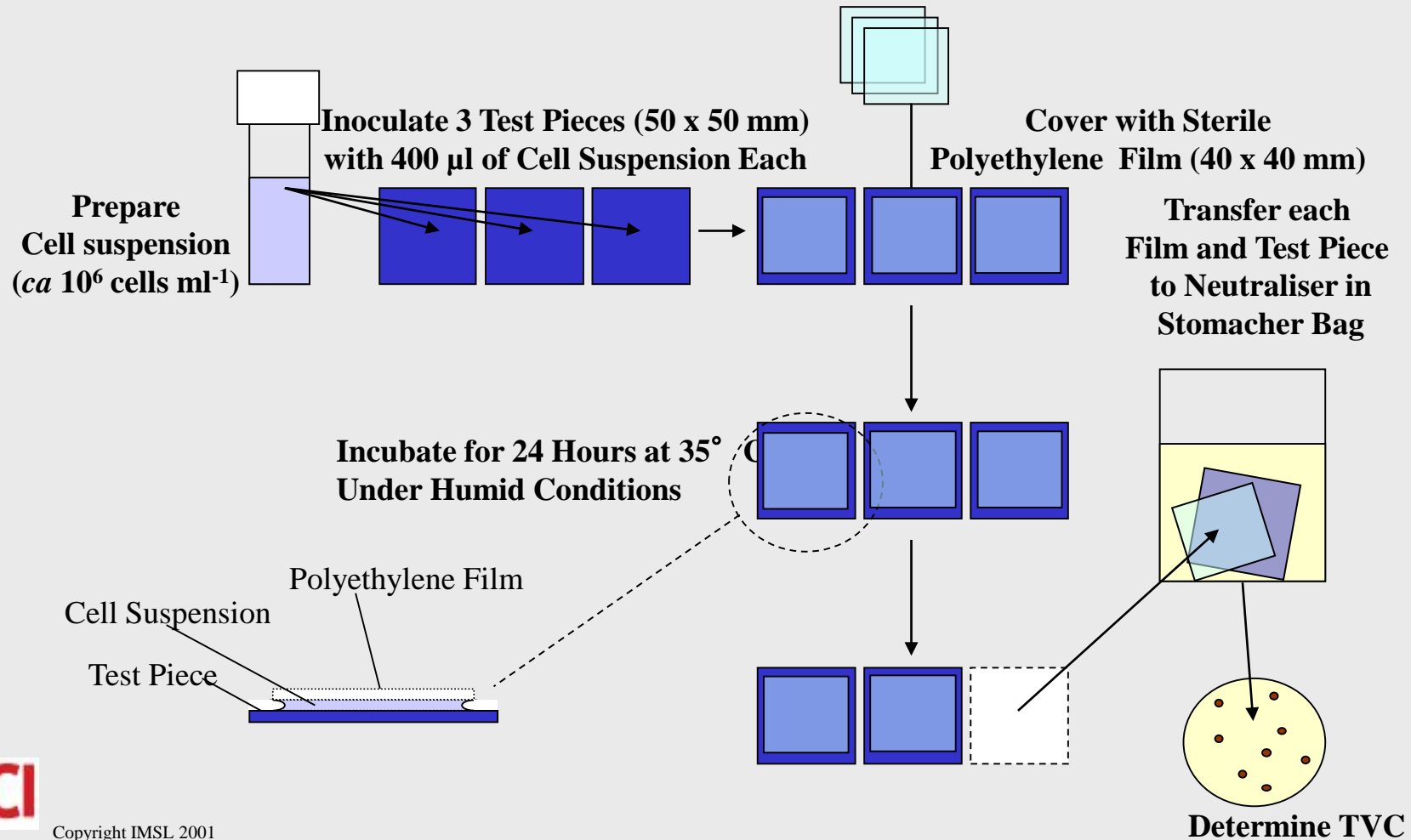
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Challenges

- Do we have models that reflect these?
 - Existing standards.
 - OECD / EU guidance.
 - Experimental methods.
- Examples.
 - There are others.

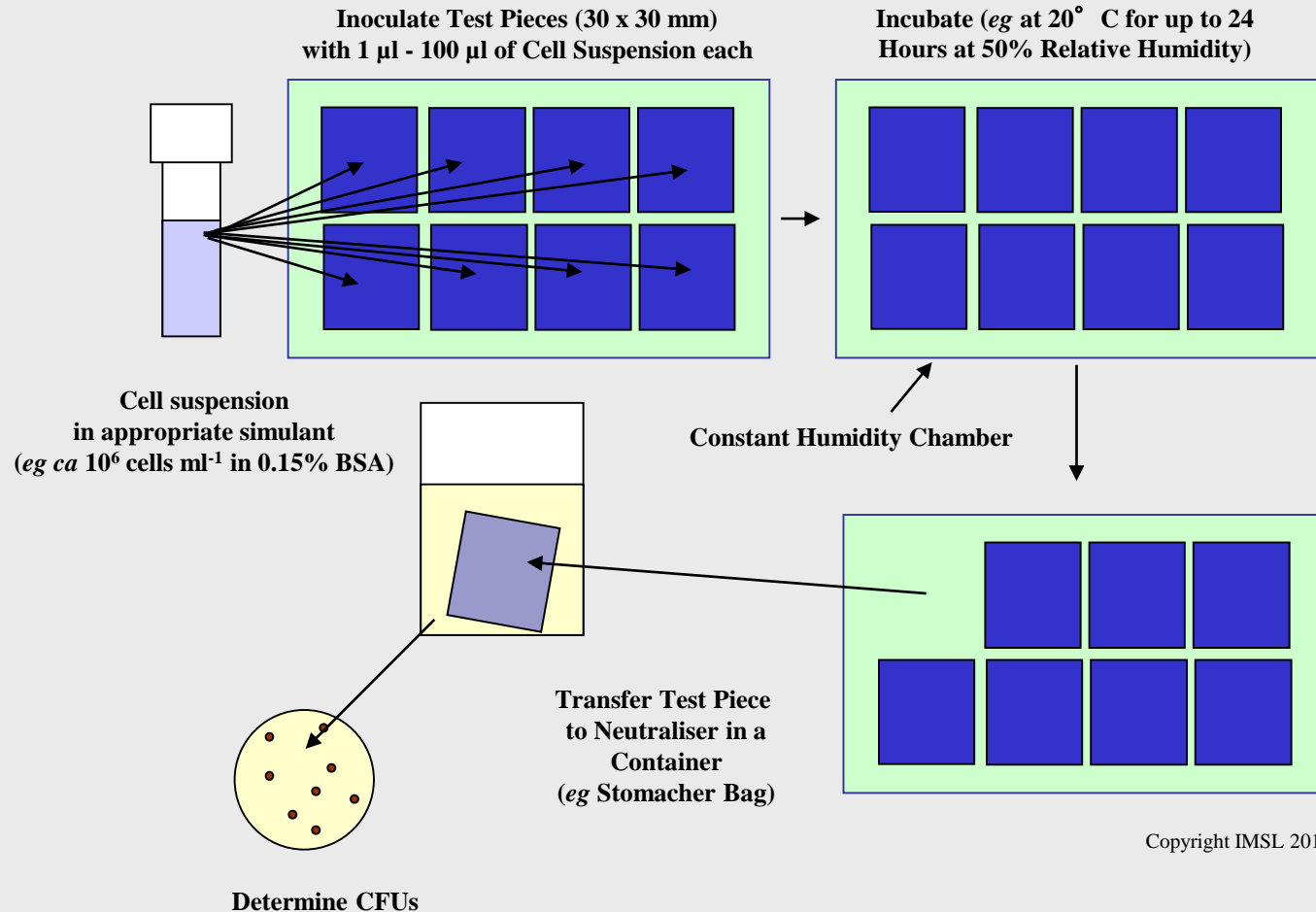


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Treated Conduit – Simulated Splash

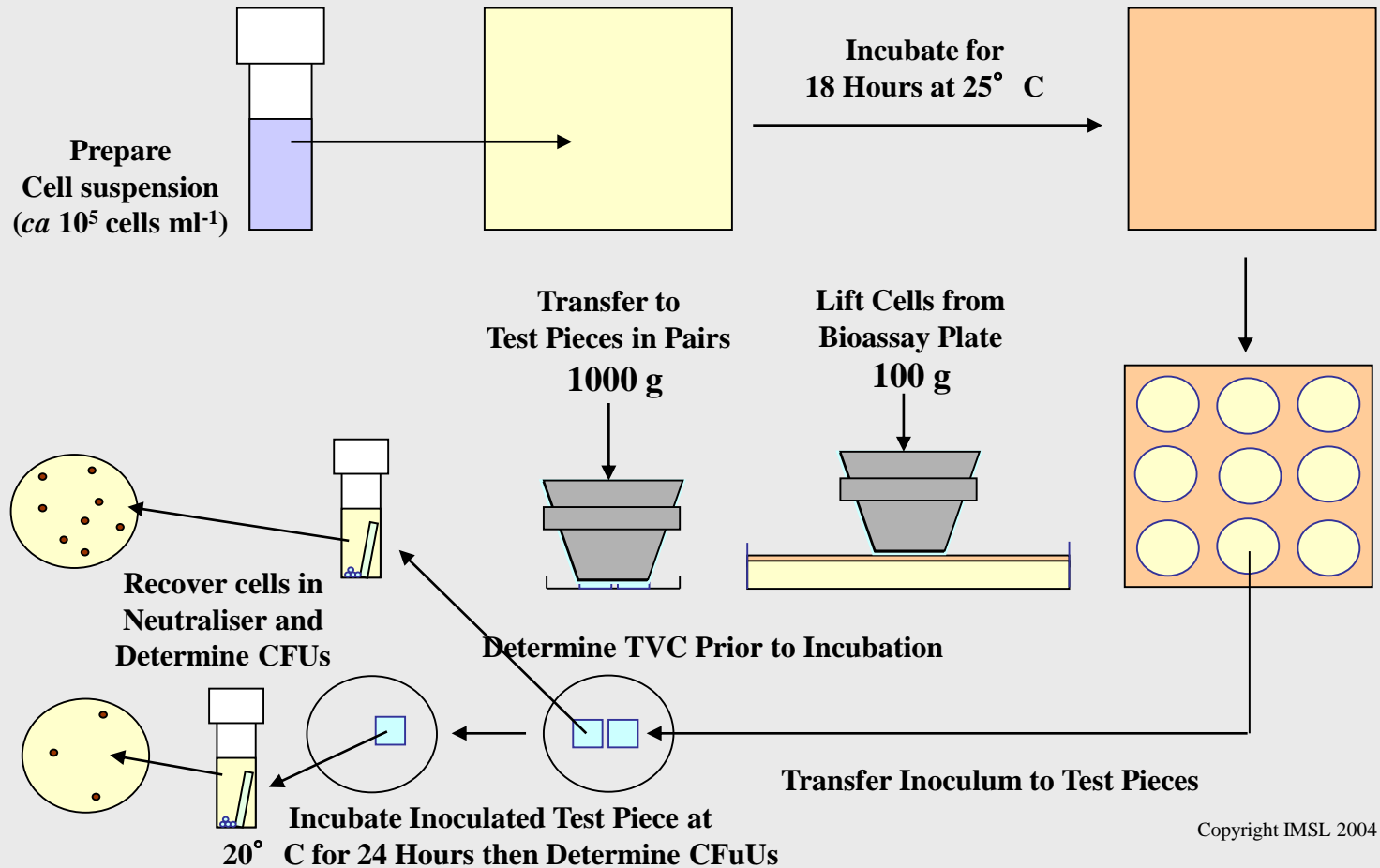


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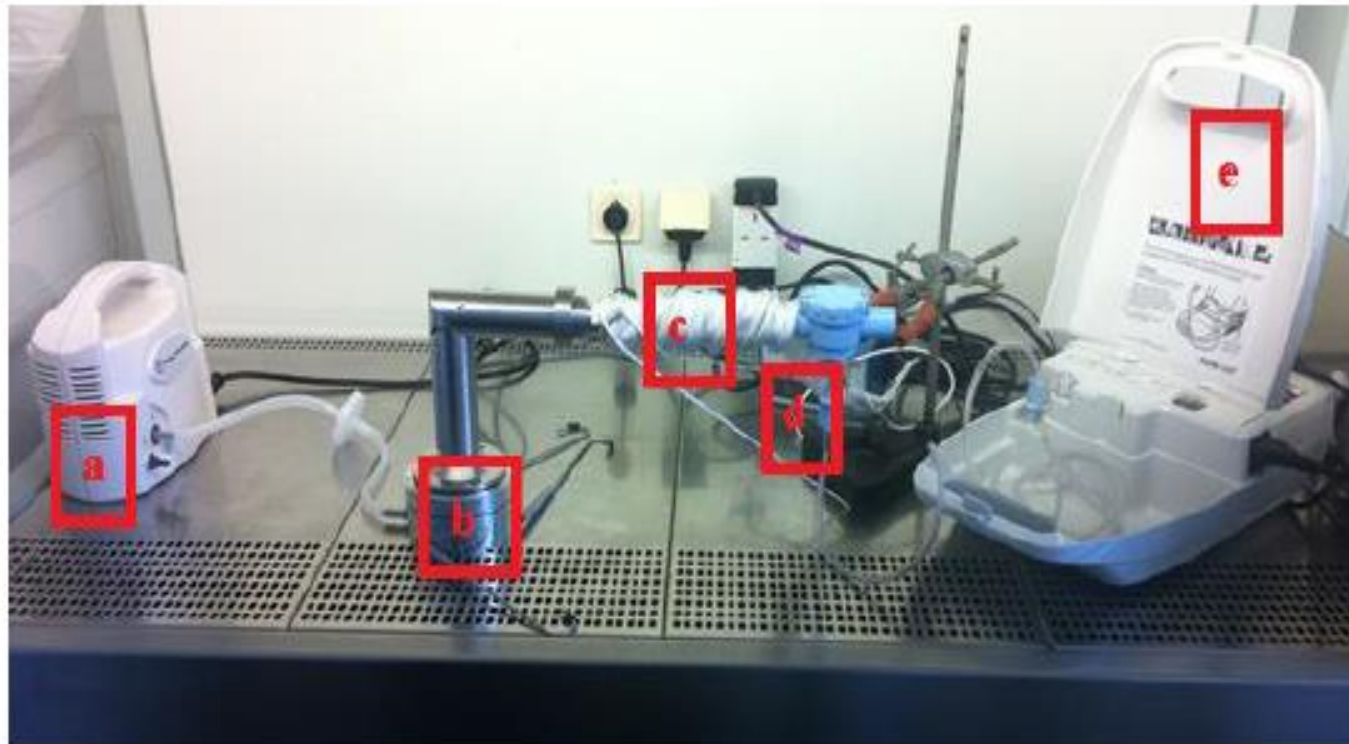


NSI METHOD

Inoculate Large Bioassay Dish containing $\frac{1}{10}$ strength Nutrient Agar with 10 ml of cell suspension



Aerosol Deposition – J-Y Maillard



a=vacuum pump, b=Andersen cascade impactor, c=heating tape, d=temperature controller, e=nebuliser

Challenges / Barriers

- Regulation.
 - EU regulates treated materials with hygienic claims (what is required?).
 - US regulates treated materials with health benefit claims.
- Small specialised markets cannot support the associated costs.
 - Globalisation (OECD initiative).

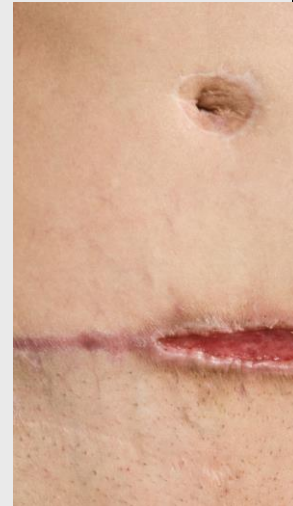


Negative Impact

- Will the presence of treated materials and antimicrobial surfaces affect / induce resistance and cross resistance?
- Will their presence be used to justify cost reduction / reduced cleaning?

Benefits

- How do we measure the benefit?
 - Can we produce predictive models?
 - Are we looking for general reductions or specific ones?
 - Can we measure performance in practice?
 - Does this impact on HAIs?



Workshop Objectives

- We need to understand what a laboratory method tells us about the activity of AMCs.
 - Existing methods, new methods...
- We need to understand how to build robust field trials.
- What are the priorities?

