



Effectiveness of Ultraviolet C Decontamination: Identifying Optimal Exposure Times for Reducing Common Hospital Bacterial Strains

Amedio TABBAKH¹, Aurélie BARDEL¹, Isabelle Fredenucci^{2,3}, Alicia Ehmke^{2,3}, Pierre Cassier^{2,3}, Thomas BRIOT^{1,4}

(1) Pharmacy, Groupement Hospitalier Nord - Hospices Civils de Lyon, France, (2) Insitute of Infectious Agents, Hospices Civils de Lyon, France. (3) CIRI, CNRS, UMR5308, INSERM, U1111, Université Claude Bernard Lyon 1, ENS de Lyon, Lyon France (4) LAGEPP CNRS 5007, Université Lyon 1, 69100 Villeurbanne, France

Introduction:

Ultraviolet C (UV-C) light is a promising technology for decontaminating materials in white rooms. A study was conducted to determine the optimal exposure time for effective bacterial decontamination.

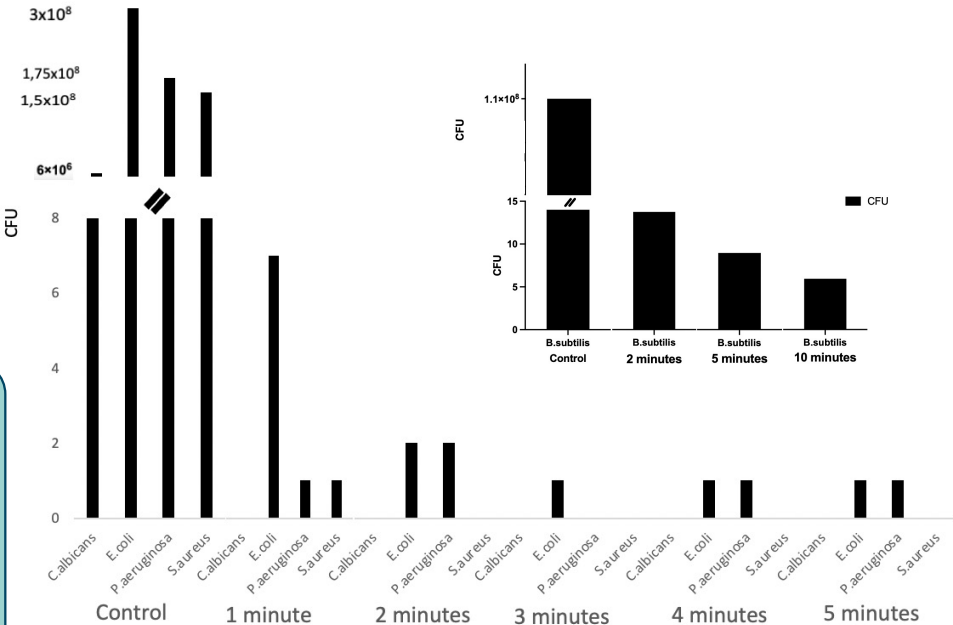


Materials and Methods:

- Material:**
UVC box : Byola® B300 – Artemesia® (Wavelength: 254nm, Delivered power: 3.21mW/cm²)
- Method:**



Results:



Conclusion:

- Study on 5 microorganisms commonly found in hospital environments
 - Logarithmic reduction of 8 log after 1 minute (Candida, E. coli, P. aeruginosa, S. aureus)
 - Spore-forming bacteria are more resistant to UVC, as demonstrated by Bacillus subtilis with a 7-log reduction after 10 minutes
- => **Effective method for decontaminating equipments in clean rooms**