

ROWAN UNIVERSITY  
**School of**  
**Osteopathic Medicine**


## Inactivation of Bacterial Pathogens Using an UVC Emitting for Whole Room Sanitization {Abridged Version}


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*"Living on the Edge  
&  
Lurking in the Shadows"*




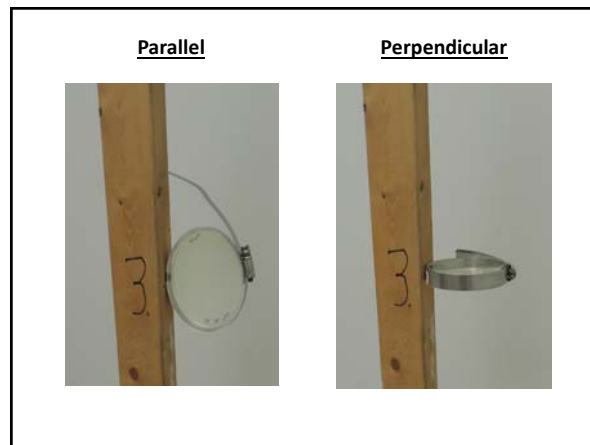
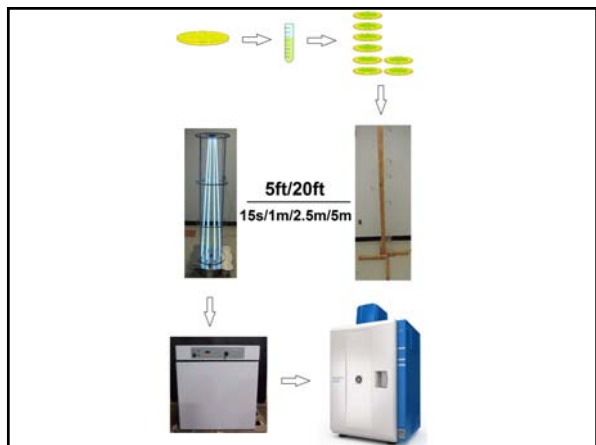


**"The TORCH"** 

- Dry, chemical-free means of disinfection
- UV light has bactericidal properties
- 8 high powered UVC lamps
- UVC output of 12 mJ/min
- Economical version

**"The LANTERN"**

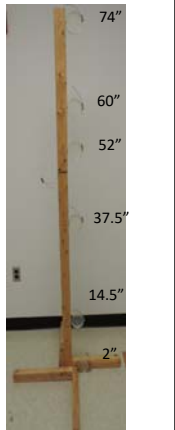
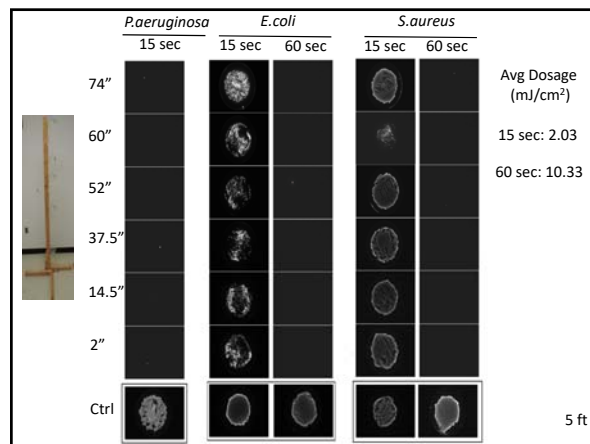


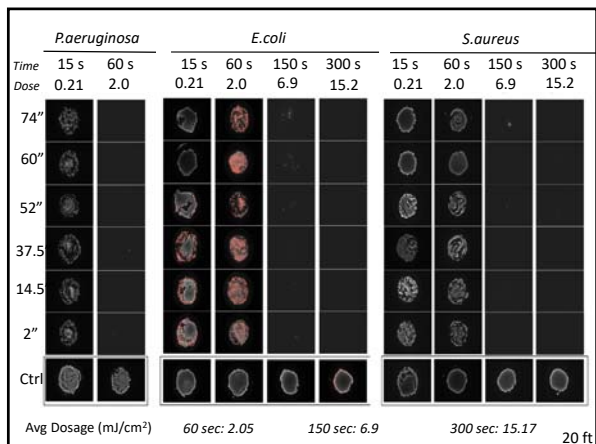


5 ft Distance				
	15 s	60 s	150 s	300 s
74"	0.7	5.6	21.9	51.4
60"	1.9	7.5	31.9	75.8
52"	1.7	14.4	44.1	94.4
37.5"	2.9	17.3	52.2	111.6
14.5"	2.5	8.4	37.9	95.5
2"	2.5	8.8	36.9	89
AVG →				
DOSE →	2.03	10.33	37.48	86.36

20 ft Distance				
	15 s	60 s	150 s	300 s
74"	0.2	2.4	7	14.2
60"	0.3	2.1	6.7	14.6
52"	0.4	2.3	7.2	15.3
37.5"	0.1	2.2	7.3	15.8
14.5"	0.2	2	7.2	16.1
2"	0.1	1.2	6	15
AVG →				
DOSE →	0.21	2.05	6.9	15.17



**Summary: Minimum Effective Dosage**

- *S.aureus*: 10-15 mJ/cm<sup>2</sup> (log 5.3)
- *P.aeruginosa*: 2 mJ/cm<sup>2</sup> (log 4.9)
- *E.coli*: 10-15 mJ/cm<sup>2</sup> (log 5.0)

