Falsies “An Esthetic Compromise to Infection Control”

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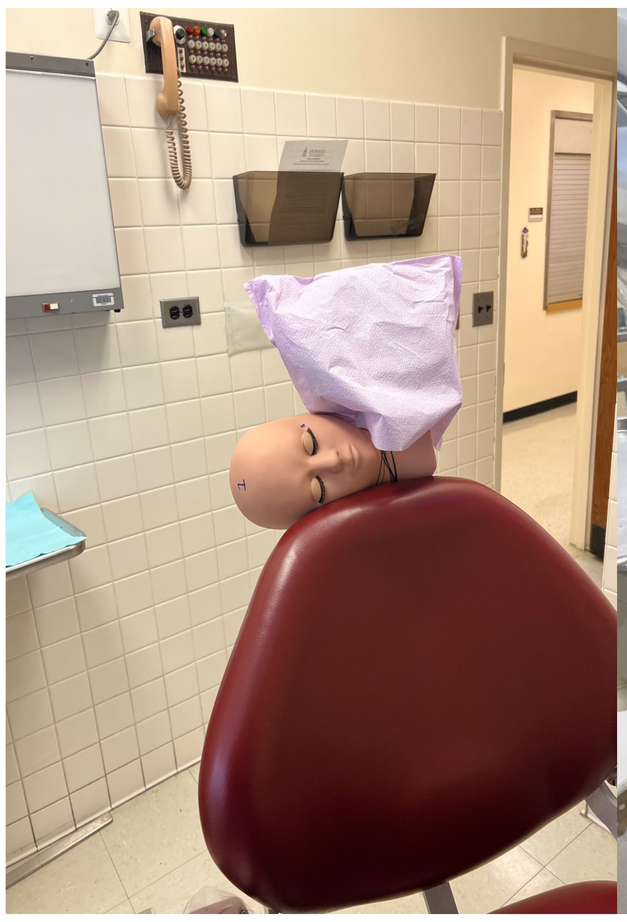
INTRODUCTION

To date, there is a lack of research on the incidence of bacterial colony formation on false eyelashes in aerosolized environments and its potential risk of infection. Women often desire long, thick, and full eyelashes for beauty and confidence, and they may use mascara and artificial eyelashes, including strip eyelashes, to achieve this look. However, clients are typically advised not to wash their eyelashes for the first 48 hours after application, which can allow for the accumulation of dirt, oil, and bacteria on the lashes. In dental offices, aerosols generated during dental treatments can remain suspended in the air for a prolonged period, potentially promoting microbial growth. The risk of infection from these aerosols has been well-documented, and studies have shown that dental professionals may be at a higher risk of infection from these particles. However, little research has been conducted on the potential risk of wearing false strip eyelashes in these environments, where exposure to aerosolized particles is common. This preliminary study aims to fill this research gap by examining the risk of infection associated with wearing false strip eyelashes in dental care settings. Mannequins wearing false eyelash strips will be exposed to aerosols in dental clinics for one week, and the lashes will be swabbed and analyzed for bacterial growth. The findings from this study can aid in enhanced infection control measures and best practices for wearing false eyelashes in healthcare settings.

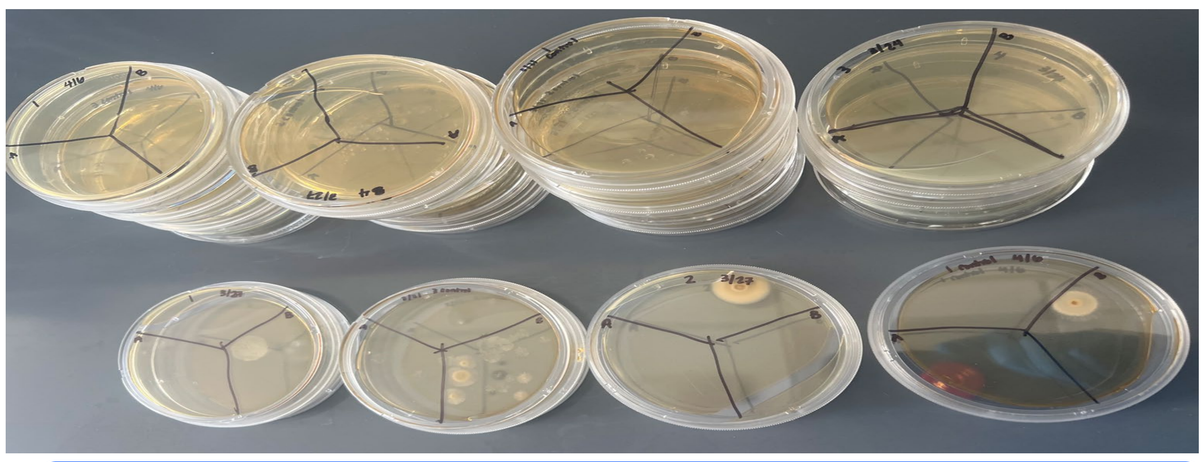
METHODS & MATERIAL

Sample collection: Mannequins wearing false eyelash strips were exposed to dental aerosols in clinics for one week intervals from initial start date 3/21/23, and their lashes labeled A vs B were swabbed with sterile cotton swabs and transferred to a test tube with 1 mL normal saline for comparison with the baseline sample taken before the exposure; exposed lashes were switched for new lashes after 1 week. This study challenges the need for enhanced infection control measures in dental offices when wearing false strip eyelashes.



RESULTS

Name of Sample	Date of Swabbing	# of Colonies Seen	Size (cm x cm) following 1 week of aerosol exposure
2A (control)	3/21/23	1	1.2 X 1.2
2B (control)	3/21/23	1	1.3 x 1.3
1A	3/24/23	1	0.4 x 0.5
1B	3/24/23	3	1. 1 x 1 2. 1 x 0.8 3. 0.9 x 1
2A	3/24/23	1	0.9 x 0.9
2B	3/24/23	1	1.1 x 1.3
3A	3/24/23	1	0.8 x 0.7
2A (control)	4/6/23	2	1. 1.1 x 1.1 2. 1.7 x 1.7
2B (control)	4/6/23	4	1. 1.3 x 1.3 2. 0.9 x 0.9 3. 2 x 1.2 4. 1.4 x 1.1
3B (control)	4/6/23	1	1.2 x 1.1
2B	4/6/23	2	1. 1.1 x 1.1 2. 1 x 1.1
2A	4/14/23	2	1. 0.6 x 2.1 2. 0.1 x 0.1
2B	4/14/23	3	1. 0.2 x 0.2 2. 1.3 x 1.3 3. 1.5 x 1.6
3A	4/14/23	1	1.6 x 1.6



CONCLUSION

Colony-formation unit (CFU) testing: Mannequins 1,2,& 3 with each eyelash labeled A or B were swabbed with a sterile cotton swab & transferred to consecutive sterile test tubes containing 1mL of normal saline then stored in -20 ^{0}C freezer. Samples were collected every week over a 3-week span. Agar broth made containing: 17.527 g of Agar broth Difco LB Agar Lennox added to a glass cylinder beaker with distilled water in the amount of 500mL Formula per Liter including Tryptone 10.0 g , Yeast Extract 5.0 g, Sodium Chloride 5.0 g, Agar 15.0 g Samples removed from -20 ^{0}C freezer and incubated in water bath at 37 ^{0}C for 30 minutes and transferred to agar plates (agar plates divided into 3 sections and streaked 6x on each side). Samples placed in oven at 30 ^{0}C with a side container of water to maintain moisture for 2 days. Approximate colony size measured with a standard cm ruler.

Locations: Mannequin 1: Oral Surgery Clinic
Mannequin 2: Basement Clinic (Perio/Resto/Endo)
Mannequin 3: Gold Clinic (Restorative)

CFUs were identified in both control and exposed samples over three days periods initially then 1 week intervals at temperatures ranging from 30°C to 37°C. However, challenges arose during the study such as the undefined optimal environment for bacterial growth, unquantifiable colony growth in some samples, improper sterilization of controls, and lack of standardization in study protocols, all of which may have influenced the results.

To overcome these challenges, more research is needed to find the best conditions for bacterial growth, leading to more accurate and consistent results. Diluting the colony samples can help measure the extent of bacterial growth and provide reliable data. Future studies will prioritize sterilizing controls to prevent contamination and ensure accurate results. Standardizing study protocols is also vital to eliminate potential variables that could affect results, providing more reliable and meaningful data going forward.

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