

Do Essential Oil Diffusers During Labor Pose a Contamination Risk to Sterile Neuraxial Placement?

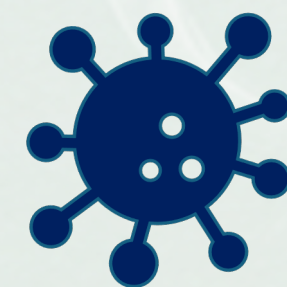
NEVA LEMOINE MD, BRYAN WAKEFIELD MD, WILLIE AGEE MD PHD, JEANETTE BAUCHAT MD, HOLLY ENDE MD, BRITANY RAYMOND MD

BACKGROUND: Essential Oils



Benefits in Labor?

- ↓ anxiety
- ↓ pain perception
- promote contractions (Clary Sage)



Microbial Risk?

- some oils exhibit antimicrobial properties (eucalyptus)
- *But!* known link to a melioidosis outbreak

HYPOTHESIS:

In a simulated open epidural tray environment, aerosolization of essential oils would yield increased microbial growth



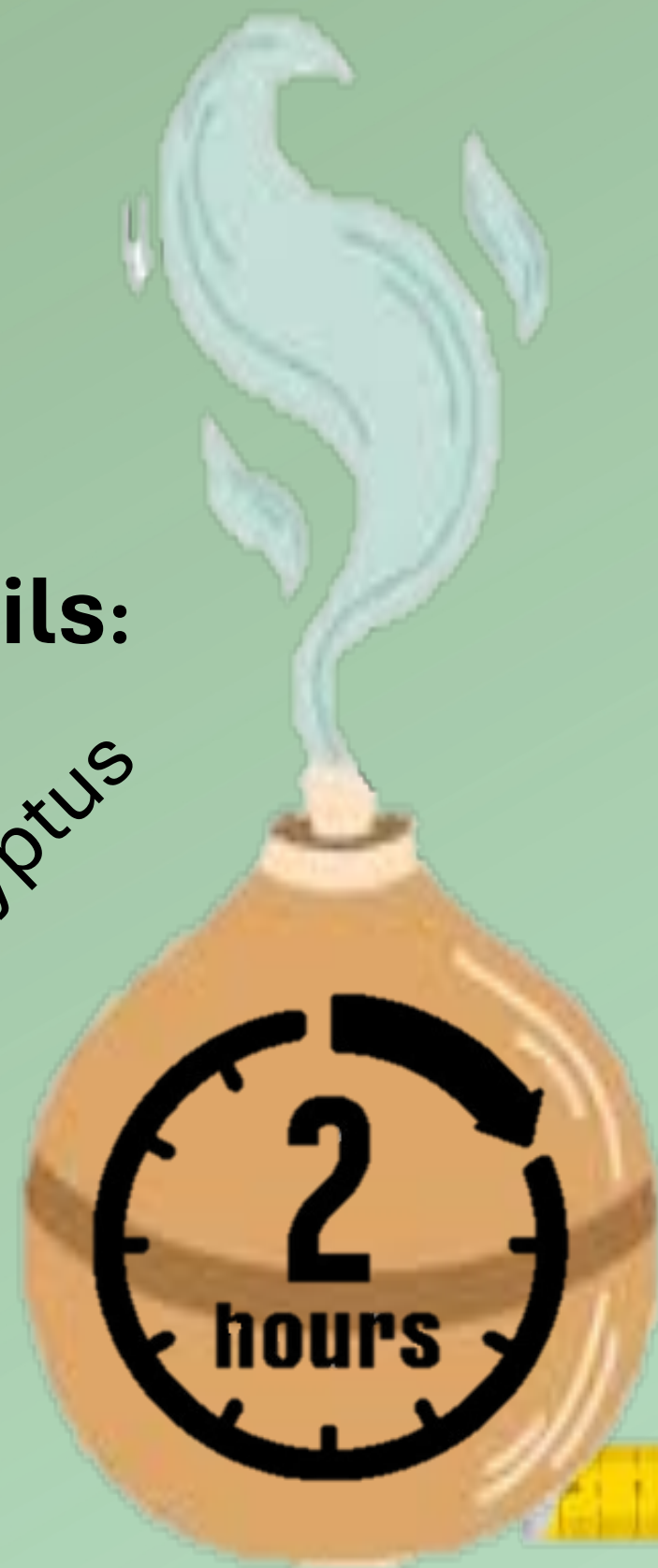
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STUDY DESIGN

Essential Oils:

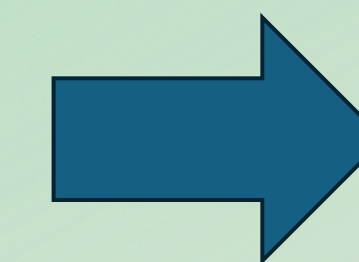
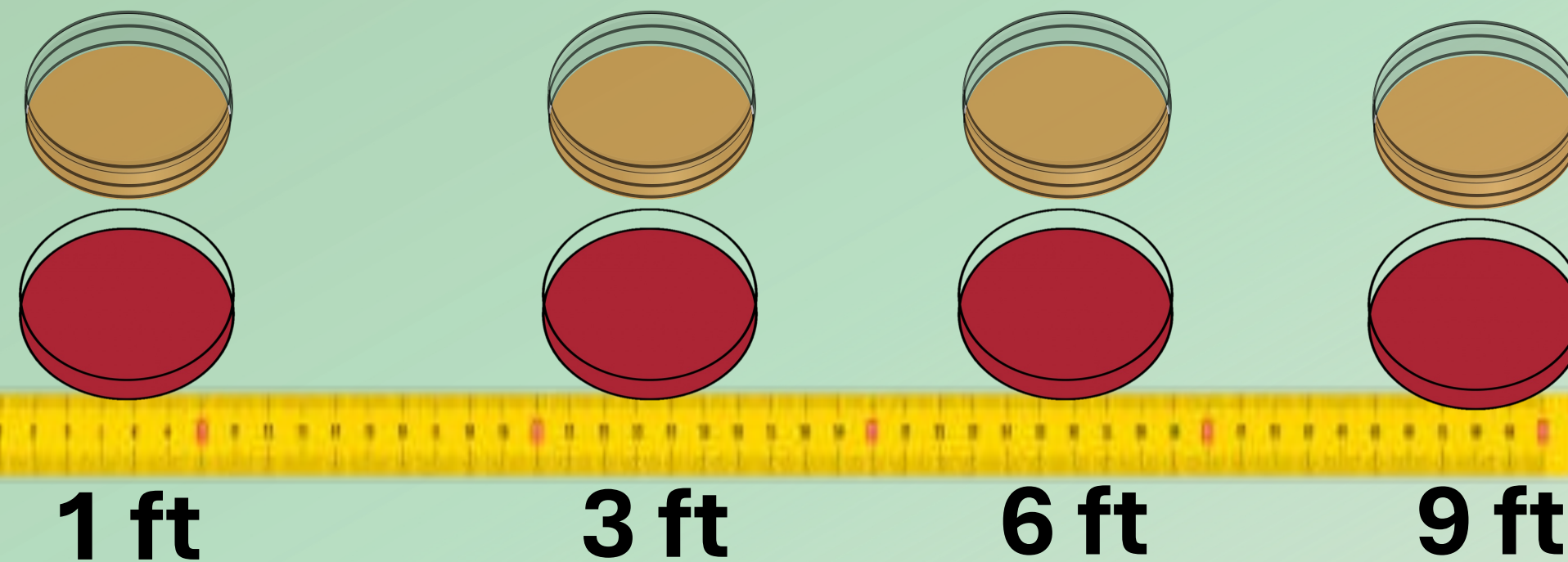
Clary Sage
Eucalyptus



Diffusers:

- a. New, clean
- b. Used, contaminated

Agar plates (TSA, PDA) opened x 20 min



Incubated x 48 h
for growth

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RESULTS

Equipment Cultures

Water = NO GROWTH

Oil Bottles = NO GROWTH

New Diffuser = 2 colonies TSA

Used Diffuser = 11 colonies TSA + 3 colonies PDA

Control Cultures

Room Air vs. Aerosolized Oil? NO DIFFERENCE

Intervention Cultures

New vs. Used Diffuser? NO DIFFERENCE

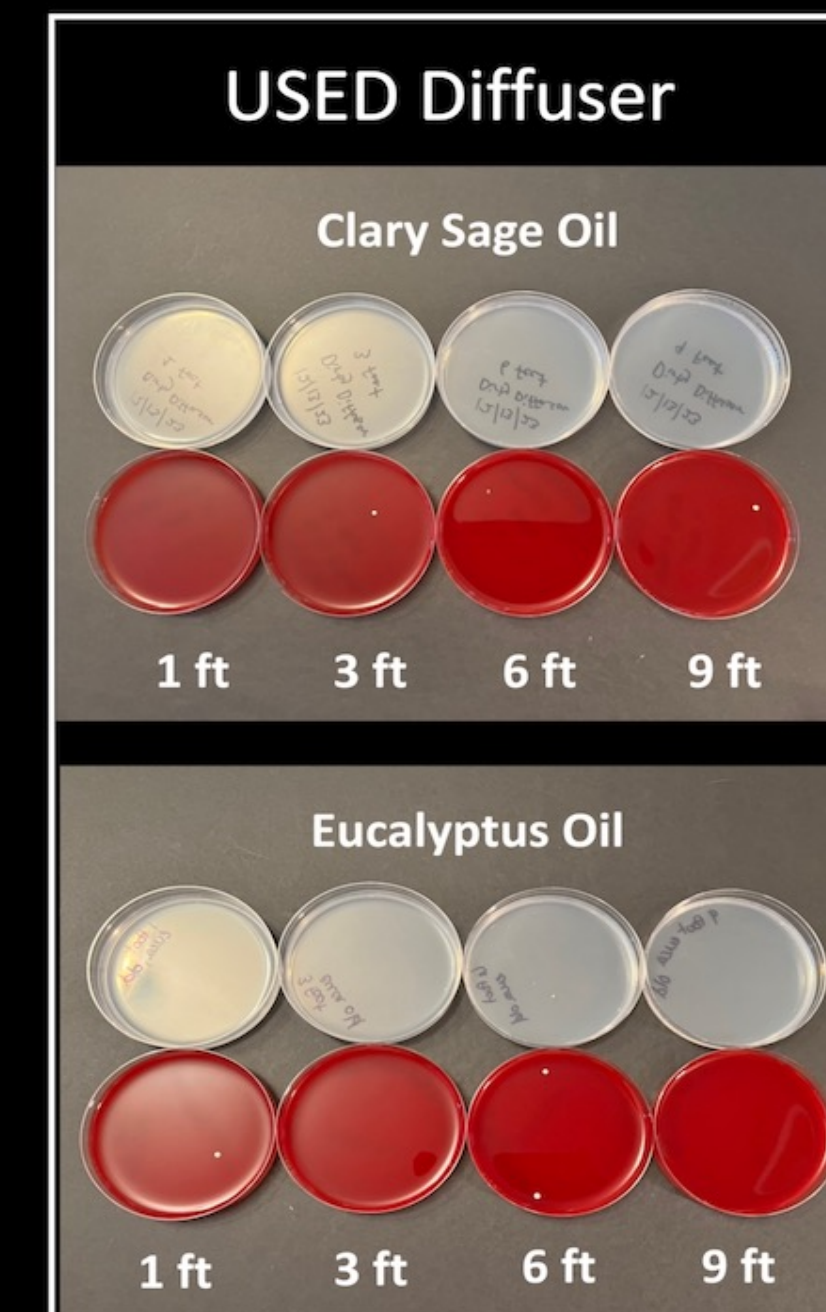
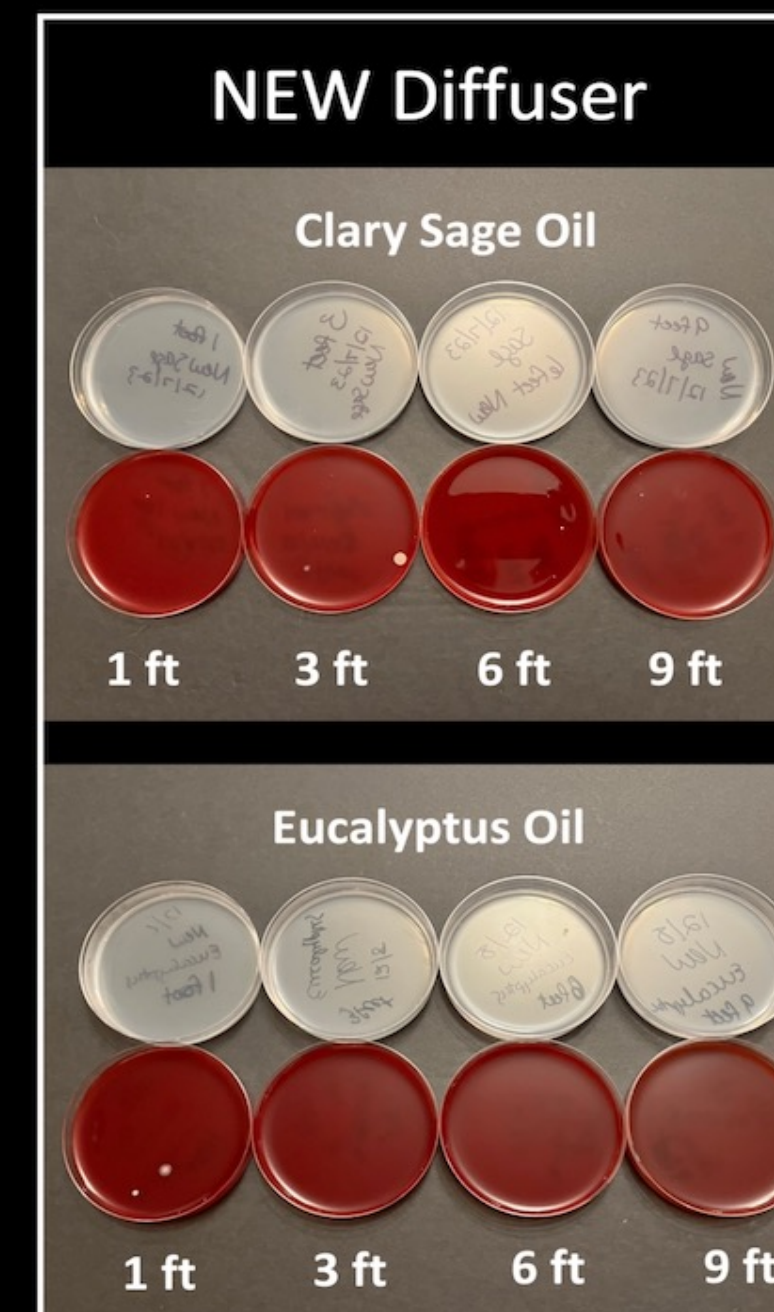
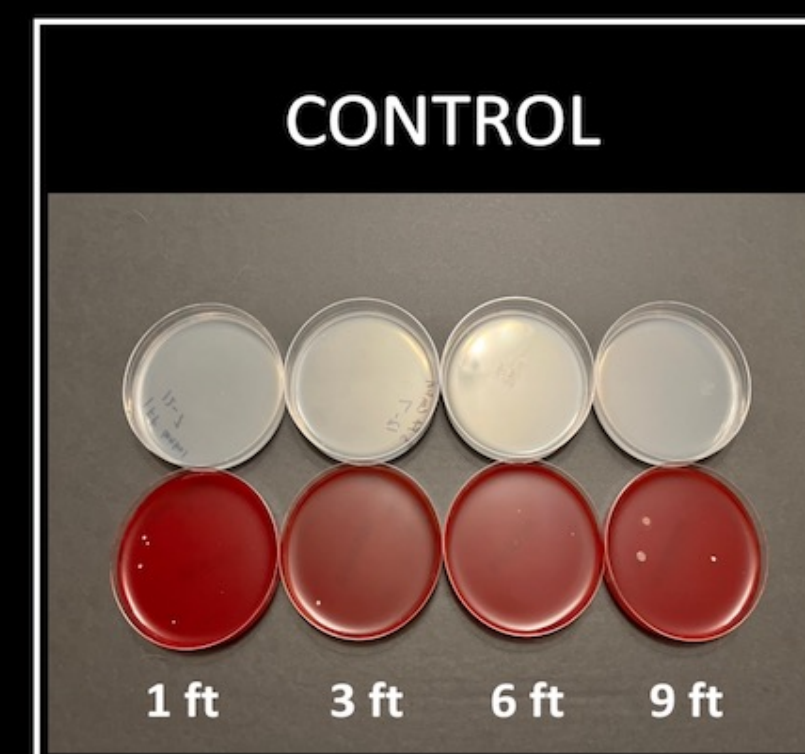
Clary Sage vs Eucalyptus? NO DIFFERENCE

Distances? NO DIFFERENCE

SWABBED EQUIPMENT CULTURES:



AEROSOLIZED CULTURES:



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CONCLUSIONS

- a. Aerosolization of oils did NOT yield significant bacterial or fungal growth at any distance.
- b. A used, contaminated diffuser did NOT increase risk of microbial growth

DISCUSSION POINTS

- Although results are reassuring, limitations include:
- Simulated environment
 - Not all possible contamination scenarios were tested



References