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Susceptibility of transient and commensal skin flora to the essential oil of Melaleuca alternifolia (tea tree oil).

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OBJECTIVES: The purpose of this study was to determine the susceptibility of a range of transient and commensal skin flora to the essential oil of Melaleuca alternifolia, or tea tree. METHODS: A modified broth microdilution method was used. Polyoxyethylene sorbitan mono-oleate detergent was added to the test medium to enhance solubility of the tea tree oil. RESULTS: Serratia marcescens had the lowest minimum inhibitory concentration (MIC90) of 0.25%. The highest MIC90 was 3% for Pseudomonas aeruginosa. The lowest minimum bactericidal concentration (MBC90) was 0.25% for S. marcescens and Klebsiella pneumoniae, whereas the highest was 8% for Staphylococcus capitis. CONCLUSIONS: S. aureus and most of the gram-negative bacteria tested were more susceptible to tea tree oil than the coagulase-negative staphylococci and micrococci. These results suggest that tea tree oil may be useful in removing transient skin flora while suppressing but maintaining resident flora.

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