

Online Proceedings

POSTER SESSION 4

MGH 241, Easel 148

4:15 PM to 5:45 PM

Investigation of Biofilm Production in *P. acnes*

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Standard orthopedic surgical procedures fail for reasons that are currently not understood. Joint replacements become unexpectedly stiff, well-fixed implants become loose and fusions fail to heal. These failures are costly to the patient and the healthcare system, especially if they result in substantial number of these 'aseptic' failures may be due to pernicious infection with relatively low virulence organisms, such as Propionibacteria, that do not stimulate the body's usual immune response or usual clinical evidence of infection. *P. acnes* is aerotolerant anaerobic, slow-growing, and found in the skin's sebaceous gland as commensal microbial flora. The Bumgarner group has sequenced a large number of *P. acnes* isolated from prosthetic implants. There is a strong interest in understanding the genes responsible for variation in biofilm forming capacity. My project within the Bumgarner group involves measuring biofilm production capacity across several strains of *P. acnes* and a related species, *P. humerusii*. The goal is to catalog and associate the phenotypes with the genotypes associated with pathogenic strains. This will contribute to the understanding of surgical pathology, and lead to improved aseptic practice in future operations.