Mechanisms of Human Disease
Pseudomonas aeruginosa and Other Non-Fermenting Bacilli
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1. Key Characteristics of NFB
2. Important Species
   a. *P. aeruginosa*
      i. Characteristics
      ii. Epidemiology
      iii. Factors predisposing to serious infection
      iv. Serious Infections
         1. Skin
         2. Pulmonary
         3. Urinary Tract
         4. Ear
         5. Eye
         6. Bacteremia
         7. Endocarditis
         8. Osteomyelitis
         9. Ecthyma gangrenosum
      v. Virulence Factors
         1. Structural
         2. Toxins and Enzymes
   vi. Laboratory Identification
      1. Oxidase positive
      2. Grape-like odor
      3. Produces pyocyanin
      4. Mucoid phenotype
   vii. Treatment
   b. *Burkholderia pseudomallei*
      i. Epidemiology
      ii. Serious Infections
         1. Melioidosis
         2. Category B biothreat agent
   c. *Burkholderia cepacia*
      i. Overview
         1. Factors predisposing to serious infection
            a. CF
            b. CGD
         2. Serious Infections
            a. Pulmonary
            b. UTI
            c. Septicemia
      ii. Overview of Cystic Fibrosis
         1. Mutation in CFTR gene
2. Effects of CFTR mutation on innate immunity
   iii. Laboratory identification

d. *Stenotrophomonas maltophilia*
   i. Epidemiology
   ii. Serious Infections
      1. Hospital acquired
      2. Systemic infections in debilitated patients
   iii. Laboratory identification
   iv. Treatment

e. *Acinetobacter baumannii*
   i. Epidemiology
   ii. Serious infections
      1. Low virulence
      2. Numerous human sources
      3. Implicated in Community-acquired and nosocomial infections
   iii. Laboratory identification