

**Sepsis, Urinary Tract Infections, and the Maniacal Plans of
Extraintestinal Pathogenic *Escherichia coli* for World Domination**
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Being the leading cause of both bloodstream and urinary tract infections, Extraintestinal Pathogenic *Escherichia coli* (ExPEC) are responsible for some of the most common infections on the planet. The success of ExPEC strains as pathogens is in part attributable to their genetic plasticity and to their ability to avoid, withstand, and inactivate host defenses. For example, within the urinary tract, ExPEC strains can invade host epithelial cells where they are protected from infiltrating neutrophils and other antimicrobial factors, as well as the administration of antibiotics. ExPEC strains also encode toxins and other virulence determinants that can modulate host cell signaling cascades and thereby incapacitate phagocytes and disrupt tissue barriers. We are interested in understanding how crosstalk between ExPEC and the host impact disease progression and outcomes during both localized and systemic infections. This research is providing new insight into the mechanisms and consequences of host cell invasion by ExPEC within the urinary tract, and is beginning to show how even similarly virulent ExPEC isolates can trigger markedly different host responses during sepsis. In addition, our findings suggest new therapeutic strategies for combatting ExPEC-associated infections, which are becoming increasingly difficult to treat due to the emergence and alarmingly rapid spread of antibiotic resistant ExPEC strains.