



# Improving Treatment Pathways for Patients with Persistent Lower Urinary Tract Symptoms

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A resource for clinicians who have patients experiencing lower urinary tract symptoms (LUTS) despite negative standard urine culture (SUC), as well as patients who do not respond to treatment based on positive SUC.

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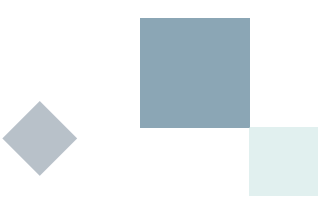
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“The literature on urinary microbiome testing is expanding, and can be useful to review as we treat patients with either recurrent culture-positive UTIs or what I refer to as ‘culture-negative UTIs’. I’ve seen patients who have been labeled as having IC, however, microbiome analysis clearly shows pathogens in their urine. When we’ve treated these pathogens, their symptoms have resolved.

“I think some patients with the diagnosis of interstitial cystitis have an occult UTI with difficult to culture organisms. By utilizing more accurate testing methods, we are able to identify pathogens in many cases, and develop appropriate treatment. Even as a physician who has conducted microbiome research for a number of years, I was initially skeptical of urine microbiome testing as a means to diagnose UTI. However, based upon patient and clinical experience, microbiome testing appears to not only be accurate in the right setting, but also may predict imminent UTI in some patients.”

— Michael Hsieh, MD, PhD



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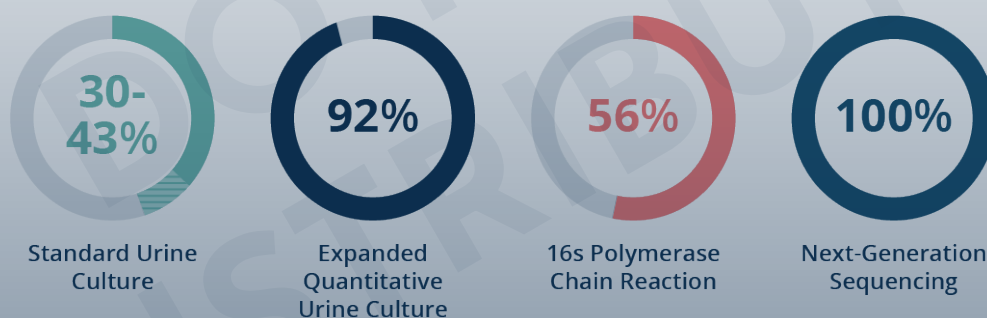
# INTRODUCTION

The purpose of this document is to provide an overview of the limitations of standard urine culture (SUC) for patients with lower urinary tract symptoms (LUTS) and persistent urinary tract infection (UTI) that responds poorly to standard treatment. Here, clinicians are provided with additional diagnostic resources for improving clinical outcomes in patients with persistent UTI and LUTS.

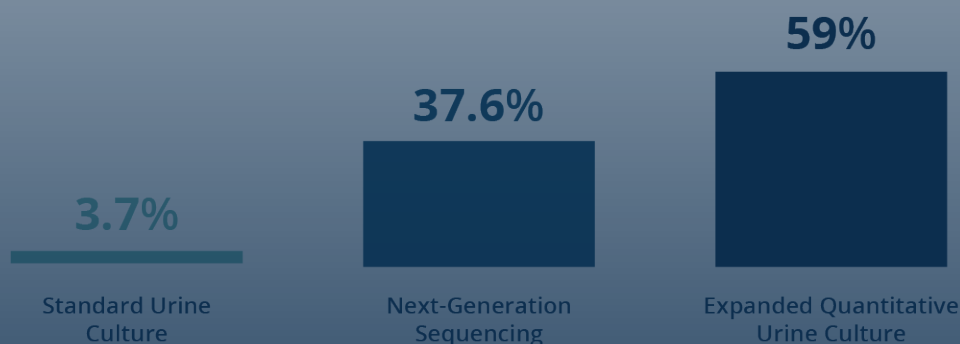
This document highlights the limitations of current gold standard diagnostics and presents methods available to address these limitations. The peer-reviewed articles referenced below indicate that a shift in UTI diagnostics improves treatment and quality of life (QOL) outcomes for patients experiencing persistent or difficult to diagnose urinary tract symptoms.

While SUC may be negative for some patients experiencing LUTS, when additional diagnostics are utilized, uropathogenic organisms may be identified in these patients and greater treatment success achieved. The term 'culture-negative UTI' is applied in these circumstances. Therefore, a culture-negative UTI should be considered as part of a differential diagnosis, and enhanced testing methods should be utilized in an effort to improve diagnostics and treatment decisions for patients with lower urinary tract symptoms.

**FIGURE 1: Microbe Detection Rate in Symptomatic Patients<sup>1,11-13,21</sup>**



**FIGURE 2: Urinary Symptom Improvement Following Treatment Based upon Diagnostic Method<sup>11,14</sup>**



# Full text available

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