

# MEMO

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To: Doctors Lab Nursing Home Staff: Resident Physicians, DONs and Personal Nurses  
From: Doctors Lab Technical Support Staff  
Date: January 20, 2020  
Re: **UTI Reflex to C&S Testing Changes and Improvements**

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At Doctors Lab, we are continually reviewing and evaluating new and emerging technologies so that we can provide the best diagnostic tools with the best turnaround times to better serve you and your residents.

It is with these goals in mind, that we have decided to pursue a new technology to provide more accurate and faster results for the diagnosis of UTI (urinary tract infections) when compared to the traditional Culture-ID-Sensitivity model. We have decided, for most samples, to move away from the traditional microbiology model of Culture-ID-Sensitivity that usually takes 1-2 days for No Growth Negatives and 2-4 days to complete the ID and Sensitivity and to move to UTI diagnosis by PCR (polymerase chain reaction).

Polymerase chain reaction (PCR) is a method used widely in molecular biology to make several copies of a specific DNA segment. Using PCR, copies of DNA sequences are exponentially amplified to generate thousands to millions more copies of that particular DNA segment. This allows the assay to quickly ID (genetically) bacteria found in urine samples without the need to culture the urine thereby saving 18-24 hours. The PCR assay can also detect the presence or absence of specific genes that can influence or determine the bacteria's sensitivity or resistance to specific antibiotics.

We believe that by utilizing the PCR technology to provide the UTI ID-Sensitivity that we can improve our Accuracy and Turn Around Times (TATs) by 1-3 days. We also believe that these improvements will allow you and your homes to better comply with the spirit and "laws" of the Antibiotic Stewardship program.

The transition to **UTI ID-Sensitivity by PCR** is already underway and we hope to begin the week of January 20, 2020.

The transition to this more accurate, sensitive and costly technology has necessitated another change that we want to make you aware of.

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Historically, we have had a number of providers consistently order a C&S no matter what the results of the Urinalysis revealed. This practice is presumably due the seriousness of a UTI in a long-term patient and the typical extended times to receive the pertinent UTI results to be able to appropriately treat your residents? However, due the complexity and cost of the PCR analysis and today's regulatory environment, our strategic PCR lab partner requires that we screen out negatives so as to not send a high volume of "Negative-No Growth" urines to be analyzed by PCR.

In order to comply with our strategic PCR partner's requirements, to minimize the number of "Negative-No Growth" urines sent to them for PCR analysis, we have enhanced our **UA w/ Reflex to C&S panel** to better identify the highest percentage of "Negative-No Growth" samples.

We have historically used the following criteria on our **UA w/ Reflex to C&S panel** to identify positive urine samples with the highest probability of being a true UTI.

- **Clarity:** **Cloudy**, turbid
- **Nitrite:** **Positive** reaction on the dipstick
- **Leukocyte Esterase:** **Positive** reaction on the dipstick

The above criteria according to the literature provides an 80-90% Negative Predictive Value (NPV) for a UTI. In order to improve the Negative Predictive Value (NPV) of our **UA w/ Reflex to C&S panel** we have added a catalase test to our reflex criteria scheme that should improve our Negative Predictive Value (NPV) to nearly 100%.

***Our request to you as an ordering provider is to order the UA w/ Reflex to C&S panel and to not order a C&S regardless of the UA results.***

***Going forward, the "UA w/ Reflex to C&S" order will be performed by PCR.***

As we make this transition to better serve you and your residents we look forward to receiving your questions, concerns and feedback.