

**HEALTHTRACK**

COLLEAGUE TO COLLEAGUE NEWSLETTER

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Emerging Insights

Syndromic molecular testing has transformed infectious disease diagnostics by enabling simultaneous detection of multiple pathogens associated with a common clinical syndrome from a single specimen. However, like any diagnostic tool, syndromic testing delivers the greatest clinical value when used intentionally and in the context of pre-test probability.

Diagnostic stewardship begins before the specimen is collected. The most effective testing strategy is one that aligns the patient's symptoms, duration of illness, severity, recurrence pattern, risk factors, examination findings, and anticipated clinical management decisions with the appropriate test selection.

From the Desk of the CMO

Dear Colleague,

We are all aware that effective diagnostic and antibiotic stewardship begins with a consistent approach to evaluating patients with infectious disease symptoms. A careful assessment of the chief complaint, relevant past medical history, and physical examination allows the clinician to formulate a differential diagnosis and estimate the likelihood of specific infections - before ordering tests.

Diagnostic stewardship means selecting the right test for the right patient at the right time. The choice between single-target and broader syndromic molecular testing should reflect the patient's symptoms, illness duration, severity, risk factors, and the likelihood that the results will meaningfully influence clinical management.

Antibiotic stewardship builds on this approach by using clinical findings and diagnostic insights to guide appropriate treatment, avoid unnecessary antibiotic prescribing, and support targeted therapy when indicated.

This month's clinical update introduces a practical, repeatable framework that connects clinical assessment, pretest probability, diagnostic test selection, and treatment decisions.

Our shared objective is straightforward: better diagnostic decisions, more appropriate treatment and improved patient care so that patients get better, faster!

— Steve



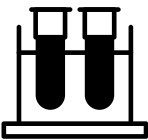
Clinical Focus: Order with Intent - Choosing the Right Test for the Right Patient

Syndromic molecular testing uses a multiplex approach to detect multiple pathogens associated with a common clinical syndrome from one specimen. It is designed for presentations in which symptoms overlap and more than one infectious cause remains reasonably plausible. Its advantages include evaluating a broader differential efficiently, reducing serial testing, and supporting more targeted treatment, follow-up, counseling, or infection-control decisions. These advantages are greatest when the patient has a compatible clinical syndrome and the result is expected to affect care.

STEWARDSHIP PRINCIPLE

Broader testing is not automatically better testing. Diagnostic value depends on the fit between the patient, the clinical question, the test, and the action that follows.

Testing Considerations: When to apply each strategy



SYNDROMIC MOLECULAR TESTING	SINGLE-TARGET TESTING
Multiple pathogens remain clinically plausible	One pathogen is the dominant clinical concern
Symptoms overlap across infectious etiologies	The presentation is characteristic of a specific diagnosis
Illness is severe, persistent, recurrent, or atypical	A focused answer is sufficient for the next decision
Patient risk factors broaden the differential	Guidelines or a defined pathway call for a specific target
A broader result may change therapy, counseling, isolation, or follow-up	Broader findings would not change management

BEFORE ORDERING

Ask: What specific question am I trying to answer, and what will I do differently when the result is available?



Quick Reference

The Order-With-Intent Decision Model

Use the same four-step sequence for every infectious disease testing decision:

1 SYNDROME	2 PROBABILITY	3 PANEL	4 ACTION
Does the patient have an active infectious syndrome? Review symptoms, duration, severity, recurrence, risk factors, and examination findings. Confirm that the specimen and test pathway match the site of symptoms.	Which causes are reasonably likely before testing? Use the history and examination to estimate pre-test probability. Separate likely infection from screening, exposure-only testing, colonization, and noninfectious causes.	What is the narrowest test that can answer the question? Choose a single target when one pathogen dominates the differential. Choose a syndromic panel when multiple clinically plausible causes remain and broader information may be useful.	Will the result change management? Define the action in advance: start, stop, narrow, or avoid therapy; guide counseling or precautions; determine follow-up; or escalate care.

CLINICAL PEARL

If you cannot describe how a positive or negative result will affect care, reconsider whether testing is needed or whether a narrower test would be sufficient.

Clinical Vignettes

CASE 1: Syndromic testing may be appropriate

A 54-year-old with chronic lung disease presents with fever, cough, fatigue, wheezing, and worsening symptoms after seven days. Several respiratory pathogens remain plausible; host risk factors increase concern for complications, and the result could influence therapy, precautions, counseling, and follow-up.

DECISION

A respiratory syndromic panel may be appropriate because the syndrome is compatible; the differential remains broad, and the result is expected to change management.

CASE 2: Single-target testing may be appropriate

A 14-year-old presents with acute sore throat, fever, tonsillar exudates, tender anterior cervical lymph nodes, and no cough. The presentation supports a focused clinical question regarding Group A Streptococcus.

DECISION

A targeted streptococcal test may provide the information needed without broader panel testing



CASE 3: Reconsider testing

An asymptomatic patient requests broad molecular testing after a possible exposure. There is no compatible syndrome, no objective finding, and no defined management change based on the result.

DECISION

Reassess whether diagnostic testing is indicated. Exposure-only testing should be distinguished from testing a symptomatic patient with a compatible clinical syndrome.

Evidence in Practice



URGENT CARE

Use broader testing when rapid tests leave an unresolved clinical question and the additional result will change treatment, precautions, or follow-up.



PRIMARY CARE

Longitudinal context matters. Prior antibiotics, recurrence, comorbidities, and access to follow-up may change the value of a broader result.



PEDIATRICS

Pair testing with supportive-care guidance, return precautions, and a plan for school or activity participation.



WOMEN'S HEALTH

Overlapping urinary, vaginal, and sexually transmitted infection symptoms require a precise differential and a specimen matched to the presenting syndrome.

Key Takeaway

SYNDROME → PROBABILITY → PANEL → ACTION

Order with intent by defining the syndrome, estimating pre-test probability, selecting the narrowest test that answers the clinical question, and deciding in advance how the result will change management.



Puzzle

L R R D S I O C C S B I L O I A N S
 T M W T T O D E T S U B Y M D I O S
 R A T R R R M S O E D D T O T U T N
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 C Y I T M O L E C U L A R B T S T O
 O S W S E L T I I P T C E I A G A Y
 I I O O O E E S D L I R S D T E N I

Syndrome
 Infectious
 Stewardship
 Pretest
 Probability
 Molecular
 Diagnostics
 Antibiotics
 Clinical
 Respiratory
 Comorbidities
 Testing