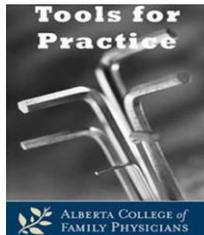


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Just wait a minute: Point-of-care testing for Group A Streptococcal pharyngitis

Clinical Question: In patients with sore throat, how accurate are point-of-care tests in the diagnosis of Group A beta-hemolytic streptococcal (GABHS) pharyngitis?



Bottom Line: Point-of-care testing, including rapid antigen detection tests and newer nucleic acid detection tests for GABHS pharyngitis are useful for ruling in a diagnosis of GABHS when positive (specificity 95%-99%). Nucleic acid detection tests may be more sensitive than rapid antigen detection tests (92% versus 85%). While immediate testing and treatment may not always be required, populations at increased risk of GABHS complications, such as Canada's Indigenous populations, are more likely to benefit.

Evidence:

- Rapid antigen detection tests versus culture (3 systematic reviews, 43-98 studies including 18,464-101,121 patients):¹⁻³
 - Sensitivity consistently ~85%, specificity consistently ~95%.¹⁻³
 - Positive likelihood ratio (LR+) 16.8, Negative likelihood ratio (LR-) 0.16.
- Nucleic acid detection tests versus culture:
 - 1 systematic review, 6 studies (1937 patients):³
 - Sensitivity=92%, specificity=99%.
 - LR+ 92, LR- 0.08.
 - Evidence published after above reviews:⁴⁻⁶
 - Sensitivity=89-100%, specificity=91-100%.
- No significant difference in point-of-care performance between adult and pediatric populations.¹⁻³
- Limitations: included studies had high heterogeneity, rapid testing not currently funded publicly.

Context:

- LR+ above 10 indicates test is a good help at ruling-in diagnosis.
- Clinical decision rules (i.e. CENTOR) have limited predictive value for diagnosing GABHS pharyngitis:⁷
 - Meta-analysis (11 studies):⁷ Sensitivity=49% specificity=82%, LR+ 2.68.

- Empiric treatment for sore throat is common (~60%).⁸ Point-of-care testing may improve appropriate antibiotic prescribing.⁹
- Antibiotics for GABHS significantly reduces:¹⁰
 - Sore throat at day three: 44% versus 71%, number needed to treat (NNT)=4.
 - Peritonsillar abscess 0.1% versus 2%, NNT=47.
 - Rheumatic fever 0.6% versus 1.7%, NNT=90.
 - (rheumatic fever data from pre-1950, incidence has declined significantly in developed countries).
- Populations with higher incidence of GABHS complications, such as Canada's Indigenous population, are more likely to benefit from antibiotic treatment.¹¹⁻¹³
- Many international guidelines consider GABHS pharyngitis self-limiting and do not recommend antibiotic treatment.¹⁴
- Delayed antibiotic prescriptions decrease antibiotic utilization with no significant impact on symptom duration, or clinical outcomes, in GABHS pharyngitis.¹⁵

Authors:

Rodger Craig MPH, Christina Korownyk MD CCFP

Disclosures:

Authors do not have any conflicts of interest to declare.

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