

Improving In-Office Testing One “Strep” at a Time

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It's a familiar story to pediatricians: a two-day history of sore throat accompanied by congestion, malaise, and maybe even a fever. A worried parent, in search of answers and treatments, inquires as to what can be done to restore their child's health. The history and physical examination is consistent with pharyngitis—but what kind? Bacterial? Or viral? The latter, a self-limited illness whose mainstay of treatment is reassurance and supportive care alone is the more common cause of

pharyngitis. The former, however, necessitates treatment primarily for the risk of rare but serious long-term sequelae. What's a pediatric provider to do?

The group A *Streptococcus* (GAS) rapid antigen detecting test (RADT) has simplified our ability to detect this bacterium in the throats of children. The result of this simple, in-office test does not, however, distinguish between acute GAS infection and colonization of the pharynx. Clinicians must rely on their clinical judgement to appropriately order the RADT and avoid the trap of misdiagnosis and unnecessary antibiotic treatment. Despite guidelines put forth by the Infectious Diseases Society of America, antibiotics for pharyngitis are prescribed at nearly twice the rate of the expected prevalence for GAS pharyngitis. In this month's *Pediatrics*, Norton et. al. ([10.1542/peds.2017-2033](#)) share a quality improvement (QI) collaboration between a private ambulatory practice and Children's Mercy Kansas City to decrease unnecessary GAS pharyngitis testing and improve appropriate antibiotic utilization for GAS pharyngitis.

The QI initiative's infectious-disease-led team designed multiple interventions utilizing face-to-face meetings, provider education, and removal of standing orders for the RADT to improve the appropriateness of testing for GAS. Testing was considered unnecessary in the following instances: 1) children < 3 years of age without a known household contact with GAS, 2) presence of two or more viral symptoms [conjunctivitis, coryza, cough, diarrhea, hoarse voice, and viral exanthema] 3) absence of sore throat, or 4) absence of any expected GAS pharyngitis findings [such as tender cervical lymph nodes, tonsillar exudates, and palatal petechiae]. During a two-year period, the practice performed over 3,800 RADTs, from which a convenience sample of 709 charts were reviewed for this study. The frequency of unnecessary RADT testing in children with pharyngitis decreased from 64% to 40.5% over the study period, with a statistically significant reduction in testing of children <3 years of age. Interestingly, study authors did not appreciate a significant change in the frequency of appropriate utilization of antibiotics; 49.1% of children with pharyngitis appropriately received antibiotics throughout the entire study period. Of the 140 children who received an inappropriate prescription, over 80% had unnecessary GAS testing preceding the decision to treat with an antibiotic. These results suggest that perhaps the greatest opportunity for antimicrobial stewardship lies with

continued improvement of RADT utilization. Interested in seeing what you could do in your own practice to improve GAS RADT test utilization? Then check out this article by Norton et. al. in this month's *Pediatrics* to find out which interventions may work best!

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