Sparrow Laboratories uses the test “Beta Strep in Throat by Real-Time PCR” for Group A, C and G streps to give a final, confirmed result faster than the current rapid antigen/culture method or non-amplified DNA Group A Streptococci (GAS).

**Impact on Patient:**
- Accurate diagnosis
- Rapid diagnosis
- Prompt and appropriate treatment
- Sensitivity equals or exceeds culture

**In Comparison with other GAS tests, the new Beta Strep by Real-Time PCR:**
- Requires no change in specimen collection or submission.
- Amplifies Strep DNA in a sample. Because of the amplification, only a few GAS bacteria are needed for the PCR test to be positive.
- Detects 20 to 55% more of GAS Strep cases than rapid GAS tests.
- Detects 15% to 25% more of GAS Strep cases than non-amplified GAS DNA tests.
- Can detect up to 7% more of GAS strep cases than throat culture.
- Has an excellent turnaround time. PCR results are available in 4 to 8 hours, weekdays, compared to throat culture results that take from 24 to 72 hours from specimen collection.
- Enable providers to prescribe antibiotics on a more timely and accurate basis.
- Detects non group A beta streps (Group C and G) similar to culture

**Clinical Background**
GAS are the most common cause of acute pharyngitis and account for 15 to 30% of cases in children and 5 to 10% of cases in adults. Accurate diagnosis permits appropriate administration of antibiotics, accelerates symptom resolution and reduces transmission. In addition to acute pharyngitis, GAS cause Rheumatic fever, Impetigo, Erysipelas, Cellulitis, Necrotizing Fasciitis, Glomerulonephritis, and Toxic Shock-like Syndrome. Group C & G Streptococci can cause pharyngitis with symptoms that are indistinguishable from GAS infections, but are more commonly found in adolescents and young adults.
Beta Strep in Throat
by Real-Time PCR, Test # 10032
Group A, C & G Streptococci

Epidemiology
Respiratory droplet spread is the major route for transmission. The incubation period for pharyngitis is 2-5 days. Children are usually not infectious within 24 hours after appropriate antibiotic therapy has been started. An observation that has important implications for return to the daycare or school environment.

- Because of concerns about the adequacy of the sensitivity of many Rapid GAS kits, it is recommended that a negative Rapid GAS test be confirmed.

Performance Characteristics of Different GAS Tests
Rapid GAS kits have lower sensitivities than GAS culture, Non-amplified DNA and Amplified DNA PCR tests. Rapid GAS kits have sensitivities between 50% and 85%. The Real-time PCR Offered at Sparrow Laboratories detects Group A, C & G streptococci. Real-time PCR increased the yield of positive group A strep (GAS) results by 4.5% over culture, 14% over non-amplified GAS DNA test. This Real-Time PCR test will detect 20 to 55% more positive GAS than available rapid tests. Our results and observations agree with publications from other major hospitals and laboratories.

We recommend substituting culture with the PCR test. Results will be available in 4 to 8 hours, Monday through Friday, after submission of samples.

Turnaround time and Days test performed
Mon-Fri: at least 3 runs per day
Saturday and Sunday: 1 run per day

Specimen Requirements
Specimen should be obtained from the surface of both tonsils and from the posterior pharyngeal wall using double Dacron swabs. Transport swabs to the laboratory at ambient temperature for up to 72 hours after collection. Calcium alginate tipped swabs or transport swabs containing gel are not acceptable.

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