CLIA Waiver by Application Approval Determination

Decision Summary

A. Document Number

CW240004

B. Parent Document Number

K212623

C. CLIA Waiver Type:

CLIA Waiver by Application

D. Applicant

Healgen Scientific, LLC

E. Proprietary and Established Names

Rapid Strep A Antigen Test

F. Measurand (analyte)

Group A *Streptococcus* Antigen

G. Sample Type(s)

Direct throat swabs

H. Type of Test

Lateral flow chromatographic immunoassay

I. Test System Description

1. Overview

The Rapid Strep A Antigen Test is a lateral flow immunoassay for the qualitative detection of *Streptococcus pyogenes* (Group A β-hemolytic *Streptococcus*, Strep A) carbohydrate antigen directly from a throat swab. For this test, a throat swab is collected from a patient suspected of pharyngitis. The swab is added to a tube containing extraction buffer, which extracts the Strep A antigen. A test strip is immediately placed in the sample solution and the extraction migrates up through the test strip by capillary action. The test strip contains an antibody specific to Strep A carbohydrate antigen coated on the test line region. If Strep A antigen is present in the sample, it will bind to the antibodies immobilized at the test line to

generate a pink-red color line. The presence of a colored line in the test line region indicates a positive result for detection of Strep A antigen, while an absence of a colored line at the test line region indicates a negative result. To serve as a procedural control, a pink-red line should always appear in the control line region, indicating that the test is functioning as expected and appropriate test procedure was followed. If the pink-red control line does not appear, the test result is invalid.

This device was previously cleared (K212623) for the qualitative detection of *Streptococcus pyogenes* (Group A β-hemolytic Streptococcus, Strep A) antigen from throat swab specimens of symptomatic patients to aid in the diagnosis of Group A Streptococcal bacterial infection. The device was CLIA categorized (CR210308) as moderate complexity. The current submission is to obtain a CLIA Waiver by Application. The test device design remains unchanged compared to the previous clearance.

2. Test System Components

The kit contains the following test components:

- 25 Test strips
- 25 Sterile swabs
- 25 Disposable extraction tubes (one tube for each test strip)
- 1 Reagent A bottle (10mL; 2M Sodium Nitrite)
- 1 Reagent B bottle (10mL; 0.2M Acetic Acid)
- 1 Positive control (1mL; Non-viable Strep A; 0.05% Proclin300)
- 1 Negative control (1mL; Non-viable Strep C; 0.05% Proclin300)
- 1 Package insert (Instructions for Use)
- 1 Quick Reference Instructions
- 2 Tube holders

J. Demonstrating "Simple"

Table 1. Demonstration of Simplicity for the Rapid Strep A Antigen Test

"Simple" Criteria	Device Characteristics
Is a fully automated instrument or a unitized or self-contained test.	The device is a unitized, self-contained test. The sample preparation requires mixing reagent A and B and placing the throat swab into the extraction tube prior to strip application.
Uses direct unprocessed specimens, such as capillary blood (fingerstick), venous whole blood, nasal swabs, throat swabs, or urine.	The test uses direct unprocessed throat swab specimens.
Needs only basic, non-technique-dependent specimen manipulation, including any for decontamination.	An untrained operator can conduct the test by performing five simple steps without sample manipulation: 1) collect the throat swab sample; 2) prepare extraction buffer by mixing Reagent A and B in an empty tube; 3) place the throat swab in the extraction buffer, mix for 1 min, and remove the

"Simple" Criteria	Device Characteristics
	swab; 4) remove the test strip from the foil and place into the sample tube; 5) wait for 5 min and then read the result.
Needs only basic, non-technique-dependent reagent manipulation, such as “mix reagent A and reagent B.”	The test only requires mixing reagent A and reagent B in an empty tube to prepare the extraction buffer. The kit is unitized and contains all tubes and reagents required for analysis.
Needs no operator intervention during the analysis steps.	The test does not require any operator intervention during the analysis step. After adding the test strip to the sample extraction tube, the test develops without user intervention for 5 minutes. Upon completion of the run time, the user interprets the test results by visual interpretation. The kit is packaged with a Quick Reference Instructions (QRI) that outlines the test process and result interpretation in easy-to-follow steps with illustrations.
Needs no technical or specialized training with respect to troubleshooting or interpretation of multiple or complex error codes.	No specialized instrumentation or machinery is required for this test. No technical or specialized training is required for sample collection, sample processing, or result interpretation. Information regarding troubleshooting invalid test results (i.e., to not use test results if the controls do not yield the expected results) and to contact technical Services or customer service is provided in the package insert and QRI.
Needs no electronic or mechanical maintenance beyond simple tasks, e.g., changing a battery or power cord.	There are no electrical or mechanical components in the device. The test does not require any instrumentation or machinery.
Produces results that require no operator calibration, interpretation, or calculation.	No operator calibration or calculation is required to interpret test results. Operator visual interpretation of test results is required. Test lines and control lines are clearly marked on the device and described in the package insert/QRI. Invalid results are clearly illustrated in the package insert/QRI. The package insert/QRI also includes indications of next steps to take based on the results.
Produces results that are easy to determine, such as ‘positive’ or ‘negative,’ a direct readout of numerical values, the clear presence or absence of a line, or obvious color gradations.	The test provides a direct visual readout of test results via the presence or absence of a pink-red colored line on the “test” and “control” region of the test strip. Results are simple to determine as positive, negative, or invalid for Strep A by following the QRI or Package Insert, which include descriptions and visual examples of result interpretation.

"Simple" Criteria	Device Characteristics
Contains a quick reference instruction sheet that is written at no higher than a 7th grade reading level.	The test procedure is written at a 7th grade comprehension level.

K. Demonstrating "Insignificant Risk of an Erroneous Result"- Failure Alerts and Fail-safe Mechanisms

1. Risk Analysis

   Healgen performed a comprehensive risk analysis based on ISO 14971:2019 to assess the safety risks associated with the operation of the Rapid Strep A Antigen Test. Potential sources of errors that could adversely affect device performance were identified and mitigated by system design, as well as additional warnings and descriptive elements in the labeling. The identified risks that could result in erroneous test results were evaluated in flex studies that stressed the functional limits of the device (see below). All risks of harm to the patient or operator were mitigated to an acceptable level and were supported by flex studies and/or operator instructions.

2. Fail-Safe and Failure Alert Mechanisms

   The Rapid Strep A Antigen Test was designed to include features and fail-safe mechanisms built into the device to prevent erroneous results.

   Design Features

   - Each test strip is individually packaged in a foil pouch to maintain the integrity of the test device.
   - The foil pouch and kit packaging are printed with the assay name, lot number, and expiration date to ensure clarity and appropriate use.
   - Adding the specimen directly to the extraction reagent tube where the test stirp is then dipped eliminates the need to transfer the specimen.
   - The strip is designed to be oriented for proper insertion into the extraction tube. The holding area/contact point for the strip is gray and there is an arrow is printed on the strip to indicate the proper orientation when adding the strip to the extraction tube.
   - Each test device contains distinct position marks on the test strip to facilitate clear and accurate result interpretation. The control line is denoted as "C", and the Strep A antigen line is denoted as "T".
   - The extraction reagent tube is flexible to help squeeze the extracted analyte from the swab specimen.
   - Swabs are supplied with the kit to facilitate optimal specimen collection from the throat and antigen release.

Fail-safe Features

- *MAX Line*—there is a line labeled 'MAX' on the strip to indicate the maximum immersion point of the strip in the extracted specimen.
- *Internal Procedural Control*—the test device contains a bulti-in procedural control. The control "C" line is used to detect proper sample flow/migration, adequate sample volume, and integrity of the assay. A visible pink-red colored band must be present in the control "C" region of the results window. If the control "C" line does not develop within 5-10 minutes, the test result is considered invalid, and retesting with a new test is recommended.
- *External Quality Control Materials*—one Positive Control Solution (containing inactivated Group A *Streptococcus pyogenes*) and one Negative Control Solution (containing inactivated Group C Streptococcus) are included in each reagent kit. Each control is processed using a separate test strip. Both control solutions are ready to use and are tested using the same procedure used for patient samples. These controls monitor the entire assay and serve to detect product defects or reagent deterioration between the manufacturer's lot release date and the date of use. The controls also monitor the operator's use of the test and detect any errors in the procedure. The manufacturer-recommended frequency of running the controls is: each new kit lot, and with each untrained operator.

Flex Studies

The operational limits of the Rapid Strep A Antigen Test were evaluated in a series of experiments of "stress", including conditions outside of those recommended in the instructions for use. A total of thirteen (13) flex studies were conducted as described below. Unless otherwise indicated, each study was conducted with negative (negative clinical matrix) and low positive (2 × LoD GAS spiked into negative clinical matrix) contrived samples tested in triplicate using three lots of test kits. Flex studies to support the CLIA Waiver Application included the following:

1) Reading Time Variability
2) Reagent A and Reagent B Volume Variability
3) Mixing Variability - the Swab in Elution Buffer
4) Extraction Time Variability
5) Non-leveled Benchtop or Work Surface
6) Testing Environment-Light
7) Testing Environment-Temperature and Relative Humidity (RH)
8) Swirling the Extraction Tube to Mix the Elution Solution Variability
9) Sample Elution Process Variability
10) Liquid Level is above the Maximum Line
11) Device warming time to room temperature.
12) Open foil pouch delay variability
13) Extraction tube squeeze variability

Flex Study 1. Reading Time Variability

Recommended reading time: 5 minutes

To evaluate the potential for error due to an incorrect reading time after strips were placed in the extraction tube, studies were conducted with strip development times of 1, 2, 4, 5, 10 and 15 minutes prior to reading the test result. The results indicated that false negative results can be attained if the reading time is less than 4 minutes. There were no false positive results, even when the development time was extended to 15 minutes. This study demonstrates that accurate test results can be obtained after 4 to 15 minutes of strip development. These results are acceptable, and this risk is further mitigated through labeling which indicates results should be read after a development time of 5-10 minutes.

Flex Study 2. Reagent A and Reagent B Volume Variability

Recommended reagent volumes: 4 drops of Reagent A plus 4 drops of Reagent B

To evaluate the potential for error due to an inappropriate addition of either of the extraction reagents, testing was conducted by adding zero to six drops of each reagent across a range of possible combinations. If only a single reagent (either A or B) was used, there was no sample flow leading to false negative results. Also, no sample flow was observed when the total volume of the combined reagent mix is 5 drops or less. Expected results were attained when the total mix volume was 6 drops or more with all combinations (except for when all six drops were only a single reagent). This study demonstrates that accurate test results can be obtained when Reagent A and Reagent B are mixed in combination with at least 6 drops total volume. These results are acceptable, and this risk is further mitigated through labeling which indicates a total of 8 drops (4 Reagent A and 4 Reagent B) should be added to the tube for extraction.

Flex Study 3. Mixing Variability - the Swab in Elution Buffer

Recommended swab mixing: 10 rotations

To evaluate the potential for error due to an inappropriate mixing of the sample swab in the extraction reagents, testing was conducted with various swab rotations including 0 (not-mixing), 3, 5, 10, and 20 rotations in the extraction buffer tube. Expected results were attained in every case where the swab was rotated/mixed except for no mixing which produced two false negative (2 false results out of 9 tests). These results are acceptable, and the labeling indicates the sample swab should be mixed by 10 rotations in the extraction buffer.

Flex Study 4. Extraction Time Variability

Recommended swab extraction time: 1 minute

To evaluate the potential for error due to an insufficient extraction time when the swab is added to the extraction buffer, swabs were immersed in the extraction tube for 15 seconds, 30 seconds, 1 minute and 4 minutes. Expected results were attained in each condition. These results are acceptable, and the labeling indicates swabs should be extracted in buffer for 1 minute.

Flex Study 5. Non-leveled Benchtop or Work Surface

To evaluate the potential for error due to performing the test on a non-level or inclined benchtop or work surface, tests were conducted on 0°, 15° forward, and 15° backward longitudinal bench surfaces. Expected results were attained in each condition. These results are acceptable.

Flex Study 6. Testing Environment-Light

To evaluate the potential for errors with result reading due to source of light, the test was run, and results were read in three different sources of light: fluorescent light, incandescent light and natural light (outside environment). Expected results were attained in each test. These results are acceptable.

Flex Study 7. Testing Environment-Temperature and Relative Humidity (RH)

To evaluate the potential for error due to the impact of the test environment on test results, the following two conditions were examined: (1) high temperature and high relative humidity (40°C±3°C and 95%±5% RH) mimicking a hot and humid climate; and (2) low temperature and low relative humidity (5°C±3°C and 15%±5% RH) mimicking a cold and dry climate. Tests were conducted by leaving unsealed Reagent A and Reagent B bottles under these conditions for 0.5 hour, 1 hour and 2 hours prior to testing. Additionally, this test was also evaluated by equilibrating the test strip to the same conditions of (1) 40°C±3°C and 95%±5% RH, and (2) 5°C±3°C and 15%±5% RH. Expected results were attained in each condition. These results are acceptable and support the use of the test under various environmental conditions.

Flex Study 8. Swirling the Extraction Tube to Mix the Elution Solution Variability

Recommended: Gently swirl the reagents to mix

To evaluate the potential for error due to inappropriate mixing of the extraction reagents, testing was conducted with various mixing intensities: gentle swirling (control), sharply swirling (generating bubbles), and no swirling. Expected results were attained in each condition. These results are acceptable, and the labeling indicates the user should mix 4 drops of Reagent A and 4 drops of Reagent B by gentle swirling.

Flex Study 9. Sample Elution Process Variability

Recommended: Leave swab in extraction buffer for 1 minute, press the swab head against the extraction tube during removal

To evaluate the potential for error due to an insufficient swab elution process, testing was conducted with and without leaving the swab in extraction tube for 1 minute and with and without pressing the swab head against the side of the extraction tube. Expected results were attained after 1 minute of extraction with or without the swab being pressed against the wall. When the swab was not left in the extraction buffer for 1 minutes, two false negative results (2 false results out of 9 tests) were observed when the swab was pressed against the tube wall and eight false negative results (8 false results out of 9 tests) were observed when the swab was not pressed against the wall. These results are acceptable, and this risk is further mitigated through labeling which states that the swab should be

left in the extraction buffer for 1 minute and pressed against the extraction tube wall during removal.

Flex Study 10. Liquid Level is above the Maximum Line

To evaluate the potential for error due to incorrect immersion of the test strip in the extracted specimen above the maximum line (indicated as MAX on the test strip), testing was conducted by incubating the test strip below, on (equal to) or above (3~5 mm over) the MAX line. Expected results were attained in each condition with no false negative or false positive results. These results are acceptable, and the risk is further mitigated by the inclusion of the MAX line on the test strip.

Flex Study 11. Device warming time to room temperature from refrigerated conditions (4°C) variability.

To evaluate the potential for error due to inappropriate warming time from refrigerator condition (4°C) to room temperature, the device was placed in refrigerated conditions (4°C) for three days and equilibrated for 0 (control), 0.5, 1, or 2 hours prior to testing. The device demonstrated expected results in all conditions, demonstrating the robustness of the assay. These results are acceptable.

Flex Study 12. Open foil pouch delay variability

To evaluate the potential for error due to the impact of delays in using the Rapid Strep A Antigen Test after the pouch is opened, studies were conducted by equilibrating the open foil-pouch test strip under 9 simulated conditions with a combination of temperatures of 5°C, 15°C, and 30°C with Relative Humidity of <40%, 40-80% and >80%. Tests were incubated for 0.5 hour, 1 hour and 2 hours prior to testing. The device demonstrated expected results under all conditions, demonstrating the device can accommodate a fluctuation of environment temperature and humidity. These results are acceptable.

Flex Study 13. Extraction tube squeeze variability

Recommended: Squeeze the bottom of the tube as the swab is withdrawn

To evaluate the potential risk for erroneous test results when there is an inappropriate swab withdraw process (not squeezing the bottom of the extraction tube as you remove the swab), studies were conducted with by removing the swab head under normal conditions (squeezing the swab during removal), when heavily squeezing the swab head during removal, and without squeezing the swab head as the swab is withdrawn. Results were as expected in each condition. The results demonstrated that the device could produce correct result using different practices of extraction tube squeeze as above. These results are acceptable, and the labeling indications that the user should squeeze the bottom of the tube as the swab is withdrawn.

L. Demonstrating "Insignificant Risk of an Erroneous Result" –Accuracy

1. Comparision Study

a. Study Design

A clinical performance study was conducted to demonstrate the clinical performance of Rapid Strep A Antigen Test in throat swab specimens obtained from symptomatic individuals in the hands of the intended users when performed in a CLIA Waived setting. The clinical study data generated in this application was obtained from a specific study to support this CLIA Waiver application, and it is separate from clinical study data obtained to support the original device clearance (K212623).

i. Study Sites and Duration

Clinical performance characteristics of the Rapid Strep A Antigen Test were evaluated in a multi-center, prospective study conducted at three sites representative of a CLIA Waived environment in the United States. Throat swabs were prospectively collected from symptomatic subjects and tested using the Rapid Strep A Antigen Test by an untrained operator at the CLIA Waived site and also evaluated with a reference culture method. The reference culture method for comparator samples was carried out at a central testing lab. Throat swabs were inoculated on blood agar, followed by appropriate incubation. Confirmation of growth and identification of Group A Streptococcus was done using routine microbiological methods. The study was conducted over a period of six years between July 2019 to January 2025.

ii. Operators

There was a total of 17 operators representative of intended CLIA waived users across the three clinical testing sites (see **Table 2** below). The operators consisted of medical assistants (with two years associate degree or two years high school graduates with on job training) and registered nurses (RN). All operators were employed in subject enrollment and sample collection, testing, and shipping for the CLIA Waiver clinical performance study. Furthermore, operators had no prior experiences using Rapid Strep A Antigen Test and relied solely on self training by reading the Package Insert, and Quick Reference Instructions prior to testing. Upon completion of the study, the operators at each site were asked to complete an Operator Questionnaire and rate the ease of use of the test procedure.

Table 2. Distribution of culture positive and negative specimens tested by site and operators.

Sites	Operators	Occupations	Distribution of Culture Positive Specimens tested		Distribution of Culture Negative Specimens tested	
			Positive	% Positive	Negative	% Negative
Site A	Operator 1	RN	17	3.2%	44	8.3%

Sites	Operators	Occupations	Distribution of Culture Positive Specimens tested		Distribution of Culture Negative Specimens tested	
			Positive	% Positive	Negative	% Negative
	Operator 2	RN	12	2.3%	50	9.4%
	Operator 3	Medical Assitant	14	2.6%	44	8.3%
	Operator 4	Medical Assitant	13	2.4%	51	9.6%
Site B	Operator 1	Medical Assitant	5	0.9%	15	2.8%
	Operator 2	Medical Assitant	3	0.6%	14	2.6%
	Operator 3	Medical Assitant	14	2.6%	52	9.8%
	Operator 4	Medical Assitant	0	0.0%	1	0.2%
Site C	Operator 1	Medical Assitant	5	0.9%	20	3.8%
	Operator 2	Medical Assitant	0	0.0%	11	2.1%
	Operator 3	Medical Assitant	0	0.0%	5	0.9%
	Operator 4	Medical Assitant	25	4.7%	54	10.1%
	Operator 5	Medical Assitant	1	0.2%	0	0.0%
	Operator 6	Medical Assitant	4	0.8%	43	8.1%
	Operator 7	Medical Assitant	0	0.0%	4	0.8%
	Operator 8	Medical Assitant	1	0.2%	0	0.0%
	Operator 9	Medical Assitant	0	0.0%	11	2.1%

iii. Instructions for Use

The Rapid Strep A Antigen Test was performed in accordance with the assay procedure in the PI and QRI. Each site was provided with copies of these materials. No other materials or instructions were provided and the operators received no training in the use of the test.

iv. Subjects (Patients)

A total 533 subjects was enrolled from three clinical sites between July 2019 to January, 2025. To be enrolled in the study, subjects had to be patients with signs and symptoms of pharyngitis and completed informed consent prior to sample collection. Patient demographics included male and female patients for all ages. Recruitment was based solely on the following inclusion and exclusion criteira

Clinical Subject Inclusion

Test subjects were enrolled if they presented at the test facility with signs and symptoms of pharyngitis and any combination of the following symptoms: Runny nose, sneezing, headache, cough, fatigue, fever, body aches, or chills.

Clinical Subject Exclusion

- Exclude those unable to consent

• Subjects who are already on antibiotics/medications

v. *Samples*

For CLIA clinical study, a total 533 samples were tested obtained from 533 subjects enrolled from individuals exhibiting symptoms of pharyngitis. No subjects in the CLIA clinical study were excluded for any reason. No repeat testing was conducted, and no invalid or error results were generated from the clinical study. Samples were direct, unprocessed throat swabs.

vi. *Comparator*

Blood Agar culture and identification of Group A Streptococcus was used for concurrent comparator testing at one reference laboratory.

b. Results and Analysis

i. Statistical Analysis of Comparison Study Results

All samples with valid Rapid Strep A AntigenTest and comparator results were included in the performance analysis. Sensitivity and specificity for the Rapid Strep A Antigen Test when compared to Blood Agar culture are summarized for all sites combined (**Table 3A**) and for each site in **Tables 3**B-D.

Table 3 A. Clinical Performance for all sites combined.

All Clinical Sites (combined)		Culture Result		
		Positive	Negative	Total
Rapid Strep A Antigen Test	Positive	110	2	112
	Negative	4	417	421
	Total	114	419	533
Sensitivity: 96.5% (110/114); 95%CI = 91.3% - 98.6% Specificity: 99.5% (417/419); 95%CI = 97.6% - 99.5%				

Table 3 B. Clinical Performance for Site A.

Clinical Site A		Culture Result		
		Positive	Negative	Total
Rapid Strep A Antigen Test	Positive	54	1	55
	Negative	2	188	190
	Total	56	189	245
Sensitivity: 96.4% (54/56); 95%CI = 87.9% - 99.0% Specificity: 99.5% (188/189); 95%CI = 97.1% - 99.9%				

Table 3 C. Clinical Performance for Site B.

Clinical Site B		Culture Result		
		Positive	Negative	Total
Rapid Strep A Antigen Test	Positive	21	0	21
	Negative	1	82	83
	Total	22	82	104
Sensitivity: 95.4% (21/22); 95%CI = 78.2% - 99.2% Specificity: 100% (82/82); 95%CI = 95.5% - 100.0%				

Table 3 D. Clinical Performance for Site C.

Clinical Site C		Culture Result		
		Positive	Negative	Total
Rapid Strep A Antigen Test	Positive	35	1	36
	Negative	1	147	148
	Total	36	148	184
Sensitivity: 97.2% (35/36); 95%CI = 85.8% - 99.5% Specificity: 98.7% (147/148); 95%CI = 96.3% - 99.9%				

Each operator tested one positive control and one negative control after self-training by reading the package insert and quick reference instructions of the product. All positive controls were detected accurately. All negative controls were detected accurately. There were no invalid control results.

ii. Device Performance with Analyte Concentrations Near the Cut-off

A study was conducted to evaluate the performance of the Rapid Strep A Antigen Test with weakly reactive samples when testing was performed by untrained users as part of Precision/Reproducibility testing in K212623. In this study, device performance was assessed with analyte concentrations around the cutoff and at high negative and low positive concentrations. Operators used in the study in K212623 were untrained users. The study results in K212623 demonstrated that users untrained in the test procedure of the Rapid Strep A Antigen Test were able to perform the test correctly, and the test provided expected results for samples near the cut-off. Refer to the K212623 Decision Summary for additional detail.

iii. Inclusivity Study:

To evaluate the impact of GAS phenotypic diversity on device performance, a panel of five (5) different strains of GAS was tested in various dilutions with the Rapid Strep A Antigen Test. Testing of the following strains resulted in 100% detection, indicating acceptable coverage of phenotypic diversity (**Table 4**).

Table 4. Inclusivity testing with the Rapid Strep A Antigen Test

Strains	Detection Concentration	Positive/ Tested	% Detection
ATCC 12344	1.4×10^5CFU/mL	9/9	100%
ZeptoMetrix 0801512	2.9×10^5CFU/mL	21/21	100%
ATCC 700294	2.4×10^5 CFU/mL	21/21	100%
ATCC 14289	3.8×10^5CFU/mL	21/21	100%
ATCC 51339	3.3×10^5 CFU/mL	21/21	100%

2. Operator Questionnaire

At the end of the study, each operator was given a questionnaire to provide feedback on the ease of use of the Rapid Strep A Antigen Test Strip. The operators filled out the questionnaire about their experience with the test procedure based on the 11 questions in the questionnaire (included below) and responded with strongly agree, agree, not sure, disagree or strongly disagree.

Operator Questionnaire:

1. It was easy to mix the reagents.
2. Squeezing the right number of drops into the test tube was simple.
3. It was easy to submerge the test strip into the tube correctly.
4. I had no trouble ensuring I read test results at 5 minutes but no more than 10 minutes.
5. Keeping track of the actual minutes I waited before reading was easy.
6. The control indicator line was distinct.
7. Knowing which lines were positive and which were negative was easy.
8. I needed help the first time I performed the test.
9. The quick reference instructions provided enough instructions to perform the test.
10. I knew what to do if the test was invalid.

Based on the feedback on the 17 operators used in the CLIA Clinical Study, all of the operators either strongly agreed or agreed with the test procedure questionnaire indicating that the test was easy to use except for question number 8 where operators disagree or strongly disagree that they needed help the first-time test was performed. Operators indicated that the package insert and/or quick reference instructions were easy to understand and follow, and the Rapid Strep A Antigen Test was easy to set-up and operate. The results did not raise any concerns about the ability of untrained users to perform the test at intended use sites.

M. Labeling for Waived Devices

The labeling consists of:

1. Package Insert (Instructions for Use)

2. Quick Reference Instructions (QRI)

The following elements are appropriately present in the labeling:

- The QRI and Package Insert (Instructions for Use) are written at no higher than a 7th grade reading level. It contains illustrations of the system components and procedure steps.
- The Package Insert (Instructions for use) and QRI identify the test as CLIA Waived.
- The Package Insert (Instructions for use) and QRI contain a statement that a Certificate of Waiver is required to perform the test in a waived setting.
- Per 42 CFR 493.15(e)(1), the Package Insert (Instructions for use) and QRI a statement that laboratories with a Certificate of Waiver must follow the manufacturer's instructions for performing the test.
- Instructions for quality control (QC) are integrated with procedural instructions for performing the test in both the package insert and the QRI.
- Appropriate cautions have been added to the Package Insert and QRG to ensure safe use of the product.
- The results of a CLIA Clinical Study that support the determination of eligibility for CLIA Waiver are included in the Package Insert.
- The labeling is sufficient and satisfies the requirements of 21 CFR Part 809.10.

N. Benefit-Risk Considerations

The Rapid Strep A Antigen Test when compared to culture showed high sensitivity (96.5%) and specificity (99.55%). While acceptable (>95%), this level of sensitivity warrants the requirement for culture confirmation of negative test results. This requirement is sufficient to mitigate the risks associated with a false-negative result and is stated in the intended use and labeling. The rapid results associated with high specificity offers a benefit to patients in management of a positive Strep A result.

O. Conclusion:

The submitted information in this CLIA Waiver application supports a CLIA Waiver approval decision.