

AQR: Competency Testing Program

Introduction

Competency testing is a reliable method of verifying that an analyst is qualified to do casework in the Laboratory of Forensic Services.

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For analysts completing training in a new discipline or category of testing, the competency test is the final step in the qualifying process that may also include evaluation of knowledge of technical literature, written or oral examinations, examination and identification of known material, and moot court.

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For experienced analysts new to the laboratory or for analysts returning to a discipline or category of testing after an extended absence, the competency test is the final step in the process before casework can begin or resume.

For lead crime scene personnel, regardless of experience and training, a competency test is required prior to assuming primary responsibility for the examination, records, and processing of a crime scene.

Critical task for the analyst

The completion of a competency test is a *critical task* demonstrating the analyst's ability to

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- make thorough scientific investigations
- identify substances and materials from unknown sources
- study and interpret physical evidence by means of laboratory analyses and examinations
- prepare reports of findings

Demonstration of competency is a prerequisite for performing casework in the laboratory.

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Required competency testing

Analysts completing a course of training in a new discipline or category of testing must successfully complete competency testing prior to beginning casework.

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Competency testing will also be required before analysts are assigned casework in the following situations:

- experienced analysts new to the Laboratory of Forensic Services
- analysts re-entering a discipline or category of testing after an absence from casework for 12 or more months

NOTE: A competency test satisfies the analyst's annual proficiency test requirement for that calendar year. New DNA analysts must be assigned a proficiency test within six months of completing a competency test.

Required competency test components

For all analysts who write reports, competency test shall include, at a minimum

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- examination of sufficient unknown samples to cover the anticipated spectrum of assigned duties and to evaluate the analyst's ability to perform proper testing methods
- a written or standardized report to demonstrate the analyst's ability to properly convey results and conclusions and, if appropriate, the significance of these results and conclusions

Note: For analysts who do not write reports, the written report component is omitted.

- a written or oral examination to assess the analyst's knowledge of the discipline, category of testing, or task being performed

Note: A moot court may be used to satisfy this requirement.

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Successful completion

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The successful completion of a competency test involves every aspect of professional forensic laboratory work that goes into acceptable completion of casework by the analyst, including

- following established procedures
- interpreting analytical results correctly
- providing accurate notes supporting all conclusions
- producing an understandable report
- getting an acceptable answer to the question at hand

Competency testing, as with all Quality System activities, has as a primary function, the production of the highest quality work product possible through the identification and correction of problems. Therefore, a competency test may also be considered successfully completed when all necessary corrective actions are completed. (See *AQR: Competency Test Result Inconsistencies*.)

Management-initiated tests

At any time, the Laboratory Director or a unit supervisor may request the Quality Manager to initiate a competency test in a specific discipline or category of testing in order to verify an analyst's ability to perform casework in that area.

Test types and sources

See *AQR: Proficiency Testing Program*, for the types and sources of available tests.

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Internal tests

Internal competency tests must be designed and prepared in such a manner that the samples are stable and the target results are obtainable with available methodologies and expertise.

Internal competency tests may be specifically designed to complement an analyst's training program or to target procedures to be used by analysts new to the laboratory or returning to casework.

Target results for test samples prepared in the laboratory must be verified prior to assignment. Verification should be performed by an analyst, other than the test preparer, who is qualified to do casework in the discipline or category of testing.

Verification may be accomplished by testing a sub-sample of the prepared test item or a duplicate item prepared in the same manner as the test item.

Photographic verification may be appropriate for certain types of crime scene discipline tests such as basic crime scene evidence recognition.

Verification may be provided by an analyst external to the laboratory. Records of the external analyst's proficiency in the discipline or category of testing must be provided along with the verification records.

Written or oral test questions and target answers must be reviewed by an individual with expertise in the area being tested as verification of the test design.

All internal tests submitted to the Quality Manager must have an answer key and have verification records attached.

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External and interlaboratory tests

Unused or previously used external or interlaboratory tests with published target values may be used for competency testing.

NOTE: Provider test result forms are not filled out or returned.

General testing process

This table gives the general competency testing process.

Stage	Description
1	The test is assigned a laboratory case and submission number by the Quality Manager. A chain of custody is created and maintained.
2	The test is submitted to the analyst by the Quality Manager with an accompanying announcement to the analyst's supervisor.
3	The test is analyzed in normal casework fashion, excluding advisory assistance from the analyst's supervisor or co-workers. NOTE: For tests that contain portions not applicable to the competency issue, the analyst will be requested to complete the appropriate portions only.
4	A written report of the results is prepared by the analyst in normal laboratory report format.
5	The test file, which includes the report and all notes, charts, graphs, and photographs is submitted to the Quality Manager. NOTE: Competency tests do not undergo technical or administrative review prior to submission for evaluation by the Quality Manager.

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General testing process (continued)

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Stage	Description
6	<p>The Quality Manager requests a technical and administrative review of the test file from appropriate personnel. The results of these reviews are recorded on the <i>Competency Test Review Checklist</i>. This form is attached to the test file.</p> <p>IMPORTANT: No changes are made to the report or notes.</p> <p>The completed technical and administrative reviews are recorded in the case management system and the test file is returned to the Quality Manager.</p>
7	<p>The results of the technical and administrative reviews are noted by the Quality Manager. The Quality Manager or designee then compares the results and conclusions reached by the analyst with the manufacturer's information.</p>
8	<p>The results of the review process and any corrective action (see <i>AQR: Competency Test Result Inconsistencies</i>) are recorded by the Quality Manager in the <i>Competency Test Result Report</i>.</p>
9	<p>Requested corrective actions are completed within 90 days from the date it was initiated. The test report is submitted by the Quality Manager to the Director for review and signature. The signed test report is returned to the Quality Manager and copies are given to the analyst. The test is complete.</p> <p>The Director approves the analyst for casework at this time.</p> <p>For DNA competencies, the DNA Technical Lead will approve the analyst for casework prior to Director approval.</p> <p>NOTE: Prior to the start of casework, the supervisor must be confident that the analyst understands all issues raised during the test review process.</p>
10	<p>Upon receipt of the test report, the analyst transfers the test items to the Evidence Section.</p>

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**Director's
authorization to
begin work**
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Upon successful completion of a competency test, the Laboratory Director authorizes the analyst to begin work using all methods, equipment, and instrumentation as listed in the technical procedures for the relevant discipline or category of testing and to issue test reports. The *Competency Test Result Report* contains the authorization.

A memo is sent from the unit supervisor to the Quality Manager, the Laboratory Director, the Professional Development Coordinator, and the analyst that the analyst has completed all applicable training and is ready for casework.

The laboratory also maintains a master list – updated annually – authorizing each analyst to conduct work in a discipline or category of testing. The list includes references to methods, equipment, and instrumentation used.

Test due dates

Competency test due dates will be set by the Quality Manager based on the complexity of the test and after consultation with the appropriate supervisor. These due dates will not exceed 45 working days from the date of assignment.

Exception

Laboratory management realizes that there will be circumstances beyond the control of the analyst, when a competency test is not completed by the specified due date.

In those instances, the analyst or analyst's supervisor should keep the Quality Manager apprised of the circumstances for the late completion. It is expected that the analyst will make every effort to complete the test as soon as possible.
