

Clinical vs Forensic Laboratory

A natural question to ask when getting laboratory tests done on biological specimens is “when will I know the results?” For many routine medical tests performed in clinical laboratories, the results are usually available in a matter of hours or days. Forensic laboratory tests, by contrast, often take a much longer time to complete. Why? Aren’t they basically the same? The short answer is no, they are not the same.

Both clinical and forensic laboratories are dedicated to producing accurate and timely laboratory analysis. However, the customers and final products are very different. Generally, clinical labs are meant to perform rapid analysis of physiological tests for doctors to use to monitor patient status and make treatment decisions. Forensic laboratories are meant to produce complete *one-time-only* analysis that will be used as part of a medicolegal proceeding. As a result, clinical labs and forensic labs collect and process samples differently, are staffed differently, are funded differently, and use different technologies.

Clinical Laboratories	Forensic Laboratories
<ul style="list-style-type: none">• Customer is a doctor or clinician.• Designed to produce timely results for patient treatment decisions.• Control of sample collection and type.<ul style="list-style-type: none">○ Patient is available for resampling and additional testing• Use commercially available drug tests<ul style="list-style-type: none">○ Tests for drugs are typically by drug class only• Testing is automated or semi-automated• Often run around the clock (esp. large hospitals)• Automated reporting.• Patients are charged for test.	<ul style="list-style-type: none">• Customer is a law enforcement agency, a medical examiner, or the judicial system.• Designed to produce findings relevant to criminal or death investigation.• No control of specimens or sample submission.<ul style="list-style-type: none">○ Subjects are not available for resampling○ Cannot begin testing until evidence is submitted.• “Find all relevant drug/poisons”<ul style="list-style-type: none">○ Only initial screen testing similar to hospital tests.<ul style="list-style-type: none">▪ Drug class findings alone are inadequate.○ Confirmation of specific drug(s) is complex<ul style="list-style-type: none">▪ Lengthy sample processing▪ Extensive data analysis• Scientist prepares official report of conclusions<ul style="list-style-type: none">○ Forensically defensible methods & results.○ Findings subjected to peer review.• Scientist provide expert testimony in criminal proceedings.• Testing, interpretation, and testimony provided at no cost to customers.

The Georgia Bureau of Investigation (GBI) toxicology laboratory seeks to improve the timeliness and completeness of results while maintaining the highest quality. Toxicology operations including processes, technology, and staffing, are continually reviewed to seek better ways to optimize analysis. In the areas that are specific to forensic toxicology, the GBI laboratory continues to pioneer work to improve and expand analysis to meet the needs of our customers. Applicable technology and processes used by clinical laboratories are incorporated into the GBI’s toxicology operations.