

**FORENSIC TOXICOLOGY LABORATORY  
OFFICE OF CHIEF MEDICAL EXAMINER  
CITY OF NEW YORK**

**HPLC MAINTENANCE**

A thorough maintenance must be performed to maximize and optimize the uses of the liquid chromatographs. The following must be considered when maintaining the LC 1090 and LC 1100:

1. Filter and degas (for LC #1 and #2) all mobile phases and wash solvents.
2. Monitor the flow rate and the chromatography from the test run. Tailing and poor peak symmetry is often an indication of a dirty guard column. Examine guard column and change if necessary.
3. Particulate matter can easily clog the thin capillary tubing so it is necessary to evaluate the flow rate of the mobile phase. A dramatic increase in pressure is often indicative of a clogged capillary tubing or clogged frit on the column. Backflush the capillary tubing if there is a significant increase in pressure.
4. Evaluate diode array detector test results every two weeks (minimum).
5. Examine and evaluate inflow/outflow check valves. Over time, the seals on the check valve wear. This can clog the tubing.
6. Document all changes and maintenance for each instrument.