Lead-poison detection

Electro-optical expertise gained in NASA contracts helped Whittaker Corp.'s Space Sciences division to develop an instrument to mass-screen for lead poisoning.

The device is a portable and highly sensitive fluorometer that detects protoporphyrin in whole blood. Free corpuscular porphyrins occur as a very early effect of lead ingestion. The instrument also detects lead in urine, used to confirm the blood tests. The test is inexpensive and can be applied by relatively unskilled personnel.

While lead poisoning may not appear to be a large problem, the fact is that at least 400,000 U.S. children are poisoned by lead every year—some 200 resulting in death. Eating old, chipped, lead-based paint accounts for much of the problem, especially in ghettos among babies and small children. In areas where industrial wastes, mining, and lead smelters are prevalent, mass screening also is desirable.

A similar Whittaker fluorometry device called "drug screen" can measure morphine and quinine in urine much faster and cheaper than other methods.