Lead in Whole Blood- Lead is measured in blood by atomic absorption spectrometry in a procedure based on the method described by Miller, et al (1). Quantification is based on the measurement of light absorbed at 283.3 nm by ground-state atoms of lead either from an electrodeless discharge lamp (EDL) or from a hollow-cathode lamp source. Blood samples, quality control pools of human and bovine blood, and aqueous standards are diluted with a matrix modifier (nitric acid, Triton X-100, and ammonium phosphate). The lead content is determined by using either a Perkin-Elmer model 5000 graphite atomic absorption spectrophotometer with deuterium background correction or a Perkin-Elmer model 5100 graphite furnace atomic absorption spectrophotometer with Zeeman effect background correction. Lead contamination must be carefully avoided throughout all procedures. All materials used for collecting and processing specimens are screened for possible lead contamination. All processing work is performed under clean conditions, including laminar flow hoods.

1. Miller DT, Paschal DC, Gunter EW, Stroud PE, D'Angelo J. Determination of blood lead with electrothermal atomic absorption using a L'vov platform and matrix modifier. Analyst 1987;112:1701-4.

-from *Laboratory Procedures Used for the Third National Health and Nutrition Examination Survey (NHANES III) 1988-1994*
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