

Environmental Medicine Article

Environmental Health Perspectives Volume 111, Number 4, April 2003

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Mercury Levels in High-End Consumers of Fish

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Abstract

Consumption of food containing mercury has been identified as a health risk. The U.S. Environmental Protection Agency (U.S. EPA) and the National Academy of Sciences recommend keeping the whole blood mercury level $< 5.0 \mu\text{g/L}$ or the hair level $< 1.0 \mu\text{g/g}$. This corresponds to a reference dose (RfD) of $0.1 \mu\text{g/kg}$ body weight per day. All patients in a 1-year period ($n = 720$) who came for an office visit in a private internal medicine practice in San Francisco, California, were evaluated for mercury excess using the current RfD. One hundred twenty-three patients were tested (93 females, 30 males). Of these, data were

statistically analyzed for 89 subjects. Mercury levels ranged from 2.0 to 89.5 µg/L for the 89 subjects. The mean for 66 women was 15 µg/L [standard deviation (SD) = 15], and for 23 men was 13 µg/L (SD = 5); 89% had levels exceeding the RfD. Subjects consumed 30 different forms or types of fish. Swordfish had the highest correlation with mercury level. Sixty-seven patients with serial blood levels over time after stopping fish showed a decline in mercury levels; reduction was significant ($p < 0.0001$). A substantial fraction of patients had diets high in fish consumption; of these, a high proportion had blood mercury levels exceeding the maximum level recommended by the U.S. EPA and National Academy of Sciences. The mean level for women in this survey was 10 times that of mercury levels found in a recent population survey by the U.S. Centers for Disease Control and Prevention. Some children were > 40 times the national mean. *Key words:* accumulation, amalgam, children, fish, methyl mercury, pregnancy. *Environ Health Perspect* 111:604-608 (2003). doi:10.1289/ehp.5837 available via <http://dx.doi.org/> [Online 1 November 2002]