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Fluoride Exposure and Osteosarcoma, McGuire, S., Douglass, C.W.F., Joshi, A., Hunter, D., and DeSilva, J., Harvard School of Dental Medicine and School of Public Health, 188 Longwood Avenue, Boston, MA, 02115.

This national case control study of osteosarcoma and fluoride (F) exposures was undertaken to compare the residential fluoride histories of osteosarcoma patients with the fluoride histories of matched controls. The data were collected from prevalent cases and matched controls seen by participating orthopedic surgeons at ten hospitals nationwide during the years 1989-1992. Non-cancerous controls, matched by age, gender and residential distance from the hospital, were chosen from in- and out-patient rosters of each of the hospitals' surgery departments. A 1:2 ratio of cases to controls was enrolled. Fluoride exposure from drinking water (municipal water, well-water) in all communities inhabited by cases and controls till the time of data collection was ascertained.

Preliminary analysis from 147 cases and 248 controls show that the average yearly F-exposure was 0.49 ppm (SD:0.46) and 0.47 ppm (SD=0.42) respectively. Further, non-matched analysis showed that 38% of the cases had average-yearly F-exposure of  $\geq 0.7$  ppm or more while 39% of controls had average-yearly F-exposure of  $\geq 0.7$  ppm (Chi-sq=0.04; df=1, p=0.84). Results from conditional logistic regression analysis using matched case-control pairs is in progress and will also be presented.

Conclusions: In this initial analysis of all cases and controls, no relationship could be found between fluoride content in the drinking water and osteosarcoma. This study was supported by NIEHS 5-RO1 ES08000.