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| **Supplementary Table 1.** Exercise cardiac power (ECP) in quartiles of serum long-chain omega-3 polyunsaturated fatty acids, stratified by the median hair mercury content\* |
|  | Exposure quartile |  |  |
|  | 1 (n=418) | 2 (n=418) | 3 (n =418) | 4 (n =418) | P for trend | Mean difference† |
| EPA+DPA+DHA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 12.29 (11.97-12.61)‡ | 12.75 (12.41-13.09) | 12.87 (12.47-13.27) | 12.90 (12.43-13.37) | 0.03 | 0.61 (0.03-1.18) |
| Hair Hg ≥1.30 µg/g, (n=837) | 12.17 (11.70-12.64) | 12.20 (11.80-12.60) | 12.43 (12.09-12.77) | 12.25 (11.93-12.56) | 0.86 | 0.07 (-0.50-0.65) |
|  |  |  |  |  |  |  |
| EPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 12.32 (12.00-12.64) | 12.66 (12.32-12.99) | 12.93 (12.53-13.34) | 12.94 (12.46-13.41) | 0.02 | 0.62 (0.04-1.19) |
| Hair Hg ≥1.30 µg/g, (n=837) | 12.02 (11.54-12.49) | 12.18 (11.78-12.58) | 12.54 (12.21-12.88) | 12.25 (11.91-12.54) | 0.70 | 0.21 (-0.38-0.79) |
|  |  |  |  |  |  |  |
| DPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 12.24 (11.89-12.59) | 12.61 (12.25-12.97) | 12.95 (12.59-13.32) | 12.87 (12.45-13.30) | 0.01 | 0.63 (0.07-1.20) |
| Hair Hg ≥1.30 µg/g, (n=837) | 12.24 (11.83-12.65) | 12.52 (12.15-12.88) | 11.93 (11.56-12.30) | 12.38 (12.06-12.71) | 0.99 | 0.15 (-0.39-0.94) |
|  |  |  |  |  |  |  |
| DHA |  |  |
| Hair Hg <1.30µg/g, (n=835) | 12.47 (12.15-12.80) | 12.61 (12.25-12.96) | 12.69 (12.30-13.08) | 12.96 (12.51-13.41) | 0.08 | 0.49 (-0.07-1.05) |
| Hair Hg ≥1.30 µg/g, (n=837) | 12.32 (11.86-12.78) | 12.27 (11.89-12.65) | 12.16 (11.82-12.51) | 12.35 (12.03-12.68) | 0.82 | 0.03 (-0.54-0.61) |
| EPA, eicosapentaenoic acid; DPA, docosapentaenoic acid; DHA, docosahexaenoic acid.Multivariate-adjusted (Model 2) *P*-values for interactions between serum long-chain omega-3 PUFAs and hair mercury: 0.03 for EPA+DPA+DHA, 0.02 for EPA, 0.14 for DPA and 0.16 for DHA.\*The mean values in the exposure quartiles were analyzed using analysis of covariance (ANCOVA).†Mean difference refers to mean difference between extreme quartiles.‡Values are means (95% confidence interval).Adjusted for age, examination year, body mass index, current smoker, leisure-time physical activity, energy intake, carbohydrate intake, alcohol intake, drug for hypertension, C-reactive protein, LDL and HDL cholesterol concentrations. |
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| **Supplementary Table 2.** Maximal oxygen uptake (mL/min) in quartiles of serum long-chain omega-3 polyunsaturated fatty acids, stratified by the median hair mercury content\* |
|  | Exposure quartile |  |  |
|  | 1 (n=418) | 2 (n=418) | 3 (n=418) | 4 (n =418) | P for trend | Mean difference† |
| EPA+DPA+DHA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 2516 (2458-2573)‡ | 2591 (2529-2652) | 2617 (2544-2689) | 2621 (2536-2706) | 0.03 | 106 (2-210) |
| Hair Hg ≥1.30 µg/g, (n=837) | 2477 (2392-2562) | 2500 (2429-2571) | 2556 (2495-2616) | 2507 (2451-2563) | 0.73 | 30 (-74-136) |
|  |  |  |  |  |  |  |
| EPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 2536 (2478-2594) | 2560 (2498-2621) | 2626 (2553-2700) | 2622 (2536-2707) | 0.06 | 86 (-19-190) |
| Hair Hg ≥1.30 µg/g, (n=837) | 2472 (2387-2558) | 2472 (2401-2544) | 2582 (2522-2642) | 2502 (2446-2559) | 0.64 | 30 (-75-135) |
|  |  |  |  |  |  |  |
| DPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 2514 (2450-2578) | 2552 (2487-2617) | 2638 (2572-2704) | 2616 (2538-2693) | 0.02 | 102 (-1-204) |
| Hair Hg ≥1.30 µg/g, (n=837) | 2447 (2374-2521) | 2552 (2486-2618) | 2511 (2445-2577) | 2534 (2475-2593) | 0.25 | 87 (-10-183) |
|  |  |  |  |  |  |  |
| DHA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 2541 (2482-2600) | 2581 (2517-2645) | 2586 (2515-2657) | 2616 (2535-2697) | 0.14 | 75 (-27-176) |
| Hair Hg ≥1.30 µg/g, (n=837) | 2470 (2388-2552) | 2538 (2469-2606) | 2509 (2447-2571) | 2527 (2469-2586) | 0.47 | 57 (-47-161) |
| EPA, eicosapentaenoic acid; DPA, docosapentaenoic acid; DHA, docosahexaenoic acid.Multivariate-adjusted (Model 2) *P*-values for interactions between serum long-chain omega-3 PUFAs and hair mercury: 0.03 for EPA+DPA+DHA, 0.02 for EPA, 0.14 for DPA and 0.16 for DHA.\*The mean values in the exposure quartiles were analyzed using analysis of covariance (ANCOVA).†Mean difference refers to mean difference between extreme quartiles.‡Values are means (95% confidence interval).Adjusted for age, examination year body mass index, current smoker, leisure-time physical activity, energy intake, carbohydrate intake, and alcohol intake, drug for hypertension, serum C-reactive protein, LDL and HDL cholesterol concentrations |

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| **Supplementary Table 3.** Maximal systolic blood pressure during exercise in quartiles of serum long-chain omega-3 polyunsaturated fatty acids, stratified by the median hair mercury content\* |
|  | Exposure quartile |  |  |
|  | 1 (n=418) | 2 (n=418) | 3 (n=418) | 4 (n=418) | P for trend | Mean difference† |
| EPA+DPA+DHA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 206.0 (203.1-208.9)‡ | 205.5 (202.4-208.7) | 204.6 (200.9-208.3) | 206.3 (202.0-210.6) | 0.97 | 0.2 (-5.0-5.6) |
| Hair Hg ≥1.30 µg/g, (n=837) |  206.2 (201.4-211.0) | 208.1 (204.1-212.1) | 207.8 (204.3-211.2) | 207.6 (204.4-210.7) | 0.84 | 1.4 (-4.5-7.2) |
|  |  |  |  |  |  |  |
| EPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 207.3 (204.3-210.2) | 203.8 (200.7-207.0) | 205.4 (201.7-209.2) | 205.6 (201.2-210.0) | 0.66 | -1.7 (-7.1-3.6) |
| Hair Hg ≥1.30 µg/g, (n=837) | 208.1 (203.3-213.0) | 206.9 (202.8-211.0) | 207.8 (204.4-211.2) | 207.4 (204.210.6) | 0.93 | -0.7 (-6.7-5.3) |
|  |  |  |  |  |  |  |
| DPA |  |  |
| Hair Hg <1.30 µg/g, (n=835) | 207.0 (203.8-210.3) | 203.8 (200.5-207.1) | 205.4 (202.1-208.8) | 206.1 (202.2-210.0) | 0.91 | -0.9 (-6.1-4.3) |
| Hair Hg ≥1.30 µg/g, (n=837) | 202.7 (198.5-206.9) | 206.8 (203.1-210.6) | 212.9 (209.2-216.6) | 207.1 (203.8-210.4) | 0.14 | 4.4 (-1.0-9.8) |
|  |  |  |  |  |  |  |
| DHA |  |  |
| Hair Hg <1.30µg/g, (n=835) | 205.7 (202.7-208.7) | 206.6 (203.3-209.8) | 206.6 (203.3-209.8) | 206.6 (203.3-209.8) | 0.62 | -1.1 (-6.2-4.1) |
| Hair Hg ≥1.30 µg/g, (n=837) | 202.8 (198.2-207.5) | 209.5 (205.6-213.3) | 208.7 (205.2-212.2) | 207.6 (204.3-210.9) | 0.36 | 4.8 (-1.1-10.7) |
| EPA, eicosapentaenoic acid; DPA, docosapentaenoic acid; DHA, docosahexaenoic acid.Multivariate-adjusted (Model 2) *P*-valuesfor interactions between serum long-chain omega-3 PUFAs and hair mercury: 0.23 for EPA+DPA+DHA, 0.39 for EPA, 0.14 for DPA and 0.26 for DHA.\*The mean values in the exposure quartiles were analyzed using analysis of covariance (ANCOVA).†Mean difference refers to mean difference between extreme quartiles.‡Values are means (95% confidence interval).Adjusted for age, examination year, body mass index, current smoker, leisure-time physical activity, energy intake, carbohydrate intake, alcohol intake, drug for hypertension, C-reactive protein, LDL and HDL cholesterol concentrations. |
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