

Biomonitoring and Biomarkers: Exposure Assessment Will Never Be the Same

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Using modern analytical technology, it is now possible to measure almost any chemical present in our bodies. The future role of classical exposure assessment will perhaps be marginalized because biomonitoring programs can directly measure the concentration of chemicals that are present in biologic matrices. Although the concentration of chemicals in the environment will continue to be measured and related to exposure parameters, the prioritization of the national environmental agenda will be dictated by biomonitoring. Recent biomonitoring studies have examined the levels of > 200 chemicals. Biomonitoring data, by themselves, are not informative in helping consumers understand their individual health risk. A major challenge facing those who conduct biomonitoring programs is how to best communicate the information to the public. In this article, we review benefits and challenges, along with select results from the Centers for Disease Control and Prevention's 2005 *National Report on Human Exposure to Environmental Chemicals*. We recommend that these data be carefully interpreted, with the goal of establishing baseline exposure information, rather than creating surrogates for conclusions about human health risk. *Key words:* biomarker, biomonitoring, exposure assessment, risk assessment. *Environ Health Perspect* 114:1143–1149 (2006). doi:10.1289/ehp.8755 available via <http://dx.doi.org/> [Online 26 April 2006]