

Public release date: 6-Sep-2006

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Contact: Mount Sinai Press Office

NewsMedia@mssm.edu

212-241-9200

[The Mount Sinai Hospital](#) / [Mount Sinai School of Medicine](#)

Mount Sinai researcher finds drinking water safe to drink

Findings indicate drinking tap water during pregnancy does not affect unborn fetus

New York, NY, September 06, 2006 -- Are disinfection by-products (DBPs) in drinking water harmful to an unborn fetus? According to a study in the November issue of the American Journal of Epidemiology (available online September 5), a team of researchers at the University of North Carolina School of Public Health headed by David A. Savitz, Ph.D., Director of the Center of Excellence in Epidemiology, Biostatistics, and Disease Prevention at MSSM, and formerly Chair of the Department of Epidemiology at the University of North Carolina at Chapel Hill, have determined that drinking water DBPs -- in the range commonly encountered in the US -- do not affect fetal survival. This finding is particularly important because previous research has suggested that exposure to elevated levels of drinking water DBPs might cause pregnancy loss.

The interaction of chlorine with organic material in raw water supplies produces chemical DBPs of health concern, including trihalomethanes (THMs) and haloacetic acids (HAAs). Several epidemiological studies have addressed potential reproductive toxicity of DBPs. The strongest support in earlier studies was noted for pregnancy loss, including stillbirth.

Researchers looked at three locations with varying DBP levels and evaluated 2,409 women in early pregnancy to assess tap water DBP concentrations, water use, other risk factors and pregnancy outcome. Tap water concentrations were measured in the distribution system on a weekly or biweekly basis. DBP concentration and ingested amount, bathing/showering and integrated exposure that included ingestion and bathing/showering were considered. Based on 258 pregnancy losses, the finding did not show an increased risk of pregnancy loss in relation to ingested amounts of DBPs.

"Decisions about treating drinking water nationwide rest in part on these health concerns, and our results provide assurance that there is no measurable adverse effect of disinfection by-products on risk of miscarriage. Given the need to control risk of infection through treatment and the huge expense involved in further reducing DBPs, this is good news for the water utility industry and their customers" said David A. Savitz, Ph.D., lead investigator and Director of the Center of Excellence in Epidemiology, Biostatistics, and Disease Prevention at MSSM.

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Dr. Savitz conducted this research while on faculty at the University of North Carolina School of Public Health. The researcher team included Drs. Philip Singer (Co-Principal Investigator), Katherine Hartmann, Amy Herring, and Howard Weinberg.

MOUNT SINAI SCHOOL OF MEDICINE

Located in Manhattan, Mount Sinai School of Medicine is internationally recognized for ground-breaking clinical and basic-science research, and innovative approaches to medical education. Through the Mount Sinai Graduate School of Biological Sciences, Mount Sinai trains biomedical researchers with an emphasis on the rapid translation of discoveries of basic research into new techniques for fighting disease. One indication of Mount Sinai's leadership in scientific investigation is its receipt during fiscal year 2005 of \$174.1 million in research support from NIH. Mount Sinai School of Medicine also is known for unique educational programs such as the Humanities in Medicine program, which creates opportunities for liberal arts students to pursue medical school, and instructional innovations like The Morchand Center, the nation's largest program teaching students and physicians with "standardized patients" to become not only highly skilled, but compassionate caregivers. Long dedicated to improving its community, the School extends its boundaries to work with East Harlem and surrounding communities to provide access to health care and educational programs to at risk populations.
