

Hello, this is Kevin O'Donovan, and I'd like to welcome you to the National Institute of Environmental Health Sciences Superfund Research Program monthly Research Brief podcast.

This month, we discuss new research on the health effects of low-level arsenic exposure in early development.

The Research Brief, Number 206, was released on February 1, 2012, and was written by SRP contractor Maureen Avakian in conjunction with SRP-supported researcher Todd Camenisch.

Exposure to low levels of arsenic in drinking water is linked to increases in blood pressure and increased risk of heart disease among adults. Now a study from the University of Arizona NIEHS Superfund Research Program links arsenic exposure during early development to heart problems.

Todd Camenisch, Ph.D., associate professor of pharmacology and toxicology, uses a mouse model to reveal the effects of low-level arsenic exposure during postnatal development on the cardiovascular system. In his new study, mice were exposed to low levels of arsenic (100 parts per billion) in drinking water for 22 weeks after weaning. The exposed mice showed significant increases in blood pressure compared to control mice, and they also showed a thickening of the left heart wall.

“These observations strongly suggest that chronic exposure to arsenic promotes hypertension and subsequent changes in size, shape, and function of the heart,” Camenisch said. “To our knowledge, this is the first animal study to assess cardiovascular changes in response to chronic exposure to environmentally relevant concentrations of arsenic.”

Further studies are needed to reveal details of the mechanism behind the link between arsenic and cardiotoxicity, to find out if the same phenomenon occurs in humans, and to determine what, if any, interventions can prevent arsenic-induced heart disease.

If you'd like to learn more about this research, visit the Superfund Research Program website at [www.niehs.nih.gov/srp](http://www.niehs.nih.gov/srp). From there, click on “Who We Fund” and follow the links to the University of Arizona research summary. If you have any questions or comments about this month's podcast or if you have ideas for future podcasts, contact Maureen Avakian at [avakian@niehs.nih.gov](mailto:avakian@niehs.nih.gov).

Join us next month as we discuss more exciting research and technology developments from the Superfund Research Program.